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This study was accomplished to determine if Diagnosis Related Groups (DRG) are indicators of nurse staffing requirements. A sample of discharge record abstracts was classified into DRGs and the amount of nursing time spent with those individual patients was determined using the Workload Management System (WMS). The correlation between the DRG relative weight used by Medicare to predict relative resource consumption and WMS patient acuity points was extremely low, indicating the DRG weights do not predict nursing time spent with the patient. Although it was concluded that the variability of the acuity points was too great to be of practical use for daily intra-hospital allocation decisions, the mean points per DRG could be useful on a macro scale. Keywords: Manpower, Personnel Management, Health Care Administration, Theses (AU)

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DIAGNOSIS RELATED GROUPS AS INDICATORS OF NURSE STAFFING REQUIREMENTS

by

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A Graduate Research Project
Submitted in Partial Fulfillment
of the Requirements
for the Degree of
Master of Health Care Administration

1 July 1985

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PREFACE

The body of this work is divided into five chapters. Chapter Two, Diagnosis Related Groups, and Chapter Three, Patient Classification Systems and the Workload Management System, may be omitted by the informed reader with no loss in continuity.

EXECUTIVE SUMMARY

This study was accomplished to determine if Diagnosis Related Groups (DRG's) are indicators of nurse staffing requirements. A sample of discharge record abstracts was classified into DkG's and the amount of nursing time spent with those individual patients was determined using the extensively tested Workload Management System (WMS). The DRC relative weight used by Medicare to predict relative resource consumption and set reimbursement levels was correlated with the WMS patient acuity points which are a measure of time spent in direct nursing care. The correlation was extremely low (r^2 = .0165) indicating the DRG weights do not predict nursing time spent with the patient. Therefore, DRG's can not be used in this manner as an indicator of nurse staffing requirements. This also infers hospitals reimbursed by DRG methodology are not being equitably compensated for nursing personnel costs.

Other findings indicate nursing time may be distributed normally per DRG. Although it was concluded that the variability of the acuity points was too great to be of practical use for daily intra-hospital allocation decisions; the mean points per DRG could be useful on a macro scale. Multi-hospital systems and health planners could benefit from these findings by using a methodology incorporating anticipated changes to the DRG case-mix.

CHAPTER I

INTRODUCTION

Background

Today's health care institutions are faced with multiple demands that are often contradictory in nature or mutually exclusive of one another. One of the most publicized conflicts of goals in modern hospitals is the need to contain costs and at the same time raise the quality of care. To accomplish both of these goals simultaneously, new methods of efficiently and effectively allocating resources are required.

An area in which these new methods need to be developed is the allocation of nursing manpower.[1] Nursing is involved in both sides of the conflict of goals. Economically, the department of nursing is the largest consumer of human resources in hospitals.[2] Since personnel cost generally account for 60% of most hospitals' budgets,[3] it is important that the nursing staff be managed intensely and reduced where possible. In terms of quality of care, nurses spend more time with each patient than other health care personnel. It is the nurse who tends to the patients' needs on a routine basis day and night. Both patients and physicians rank the nursing staff as the number one determinant of their satisfaction with the quality of hospital care.[4] Sufficient manpower must be insured to render proper care to the patient physically, emotionally and spiritually. Thus it is important to keep staffing levels as high as needed.

How to provide the right nursing staff to the right patient at the right time without wasting resources, and thus achieve the two goals, has been the subject of much study in the past.[5] Historically, management scientists have developed nurse staffing methods based on many averages. These methods usually consider the average patient census and the average time required for the average nurse to render care to the average patient. This is then averaged or projected over the course of an entire year.[6]

Many problems arise when models based on averages are used. They do not account for seasonal or epidemiological variations. These methods may not be flexible or responsive to the needs of individual patients. The daily impact of specialized treatments required by today's high-tech medicine are not considered.[7] These problems make comparisons from year to year very limited. When applied to multi-hospital systems that operate institutions in different geographical locations the problems become magnified.[8] Variables such as patient demographics, disease patterns, nursing modalities, the hospital's mission and its policies all effect staffing.[9] The result is for a great majority of the time individual nursing units have too little or too much staff.[10] This effects both cost and quality, the two elements of the conflict.

In an attempt to rectify some of these problems, systems involving intra-hospital variable staffing have been developed in the last twenty years.[11] These staffing systems are based on the intensity or amount of nursing care required by each patient. They allow hospitals to shift

nursing staff among nursing units to meet fluctuating demands. Most of these systems require a lengthy nursing analysis taking time away from patient care.[12] Each patient's nursing needs are assessed. Then each patient is assigned to an intensity category. The categories for each unit are summed and compared with other units. Staff is then allocated based on these requirements. These variable staffing methods are usually called patient classification systems, acuity of care, or intensity of care systems.

Most patient classification systems are paper intensive and expensive to implement.[13] Another problem experienced is "acuity creep." Over time, nurses who classify patients tend to increase the acuity ratings for similar patients.[14] Acuity creep is caused by the fact that the nurse who rates the patient has a vested interest in the staffing outcome. Thus the integrity and reliability of the system is compromised.

The future of patient classification systems, however, is promising. With the coming widespread use of diagnosis related groups (DRG's) these variable staffing systems have the potential to become more streamlined and reliable. Every hospital patient will be assigned a DRG upon admission by someone other than a nurse with a vested interest,[15] such as a utilization review coordinator or DRG coordinator.[16]

DRG's are a case-mix analysis system designed to measure the resources expected to be consumed by treating a patient with certain clinically significant characteristics.[17] DRG's do not necessarily recognize

differences in the level and intensity of services provided to patients.[18] In this system there are twenty-three major diagnostic categories which are further divided into 470 groups.[19] The groups are based on diagnosis, age, sex, procedures, comorbidities and condition at discharge.[20] Originally developed for effective utilization review,[21] Medicare and other third party payors now use DRG's to prospectively determine reimbursement rates.

Medicare reimbursement rates were developed from a relative weighting scale that is intended to reflect the relative resource consumption associated with each DRG. The scale was developed from a large study of 1981 Medicare cost reports and hospital charges for non-Medicare patients in Maryland and Michigan.[22] (Currently the Health Care Financing Administration is considering revising this scale.) A value of one is used to represent the average patient charge; therefore a weight of two means the charge for that DRG is twice that of the average of all DRG's.

If this DRG weighting scale or case complexity index (CCI) is an indicator of nursing time requirements, then DRG's could be used to classify each patient. Once a DRG is assigned to a patient the CCI would replace the nursing analysis and the accumulation of acuity points. Thus the allocation process would be greatly simplified and much more objective. The nurse would be relieved of this administrative duty and would be allowed to spend the time saved in bedside nursing.

In multi-hospital systems, nurse manpower requirements could be prospectively allocated to individual facilities based on historical DRG

case mix and anticipated changes in demographics, policies, marketing directions and missions that would effect the DRG case mix. This researcher has developed an equation to represent this concept (See Figure 1). The frequency of each DRG in the case mix would be evaluated and adjusted for any anticipated changes. The frequency of each DRG would then be multiplied by its CCI yielding a figure representative of the nursing care required to treat each grouping. All of these figures would be summed giving a total requirement for the facilities case mix. This requirement should then be divided by a productivty figure stated in terms of the CCI.

$$\text{Requirements} = \frac{\text{Sum of } [(\text{Each } CCI_n \times (\text{Frequency of } DRG_n + AC)]}{\text{Nursing Productivity per unit of CCI}}$$

NOTE: AC = anticipate changes

Conceptual Equation

Figure 1.

To advocate allocating nursing manpower based on DRG's it must be determined if DRG's are indicators of nurse staffing requirements. For a sample of DRG's, this study compares the case complexity index with the patient acuity points derived from an extensively tested patient classification system, the Workload Management System (WMS).[23] No studies were found that compared the WMS or any other patient classification system with the DRG case complexity index. One recent publication, however, suggested such a study be accomplished.[24]

If these two scales exhibit an acceptable level of correlation, DRG's could be useful. Multi-hospital systems and individual institutions could then use DRG's to allocate nursing staff and take a step toward balancing cost and quality.

Research Statement

This study was accomplished to determine if diagnosis related groups (DRG's) are indicators of nurse staffing requirements.

Objectives

1. Nursing units to participate in the study were selected.
2. The nursing staff of the selected units were taught to use the WMS.
3. The nursing staff classified all patients admitted to the selected units for a thirty day period.
4. An abstract of all inpatient records of patients discharged from the selected units during the thirty day period was developed.
5. The patients were grouped into DRG's from the abstracts.
6. The sixteen most frequently observed DRG's were identified.
7. The case complexity index (CCI) for each identified DRG were determined.
8. Using the Workload Management System (WMS), the mean patient acuity points for each identified DRG was determined.
9. The correlation of the two scales (7. & 8. above) was calculated.
10. Conclusions were drawn and recommendations made based on the results.

Criteria

DRG's were to be considered indicators of nurse staffing requirements if the following criteria was met: The two scales were to be positively correlated with an r value $\geq .80$ (or $r^2 \geq .64$).

Assumptions

1. Since staffing was not allocated by this system during the study, acuity creep was not a factor.

2. The Workload Management System is a valid method to determine nurse staffing requirements.[23,56]

3. The mix of DRG's per inpatient facility does not significantly change over time unless acted upon by an outside force.

4. "DRG creep"[25] was not a factor since the study hospital was not using any type of DRG system.

Limitations

1. This study was conducted at Wilford Hall USAF Medical Center (WHMC) which is quite different from most hospitals in terms of size and mission. Nursing policies and procedures may therefore differ, and specific nursing

time measurements required for each DRG may not be entirely applicable to other medical facilities.

2. WHMC does not use DRG's; therefore nursing time and treatment protocols are not managed per DRG and may not be as standardized as in other facilities. This may alter the results of this study in other hospitals. However a truer measure of requirements may have been obtained. This is because WHMC is free of any bias, such as strict adherance to length of stay norms, that may be caused by DRG's.

3. The small sample size in terms of number of cases per DRG (see Table 5.), may have impacted on the statistical findings of this study. The sample may not have been representative of WHMC's DRG case mix; however the intent of the study was not to describe or model the case mix, or determine the effects of case mix on WHMC nurse staffing.

4. The CCI widely used by the Health Care Financing Administration (HCFA) and in this study was computed prior to Medicare's use of DRG's. Few hospitals were managing by DRG's and today's actual costs per DRG may differ from those when the CCI was developed. Consequently, if the HCFA were to develop a CCI from more current data, the results of this study would need to be replicated.

5. Statistical analysis reported under the heading of Other Findings in Chapter Four was limited to the capabilities of the computer program used, MICROSTAT.[26] Specifically, when applying a Chi-square Goodness of Fit test,

all observations are forced into six groupings thereby limiting the degrees of freedom to five. For this study, this researcher considered this acceptable. The confidence level for this test is set at 95% and is unchangeable. These statistical limitations were noted by the researcher. Specific methodology and reasoning behind these program limitations were not contained in the program's literature.

Methodology

1. The nursing units to be studied were selected by the nursing research staff. It was done in a manner to make the results as generalizable as possible. Specifically, the units were selected so that no one clinical service or DRG major diagnostic category would constitute the majority of the sample. The units were to have medical, surgical and pediatric patients so a broad range of DRG's would be included.

2. A nurse and an alternate on each selected unit were trained on the use of the WMS by the nursing research staff. The trained nurses accomplished a patient acuity worksheet (Appendix A) on each patient admitted to their unit. These worksheets were collected and analyzed by the nursing research staff for proper use of the system for two weeks prior to the study. The unit nurses did not know this data would not be used in the study.

(Note: Steps one and two were not accomplished specifically for this study. They were a portion of an Air Force evaluation of the WMS.[27])

3. Patient acuity worksheets on each patient admitted and discharged from the study units were collected by the researcher over a thirty day period.

4. An abstract of the inpatient records of all discharged patients from the selected nursing units was developed (Appendix B). Only patients who spent their hospital stay on one of the selected units and whose stay began and ended within the thirty day period were included in the study. This insured the inclusion of fluctuating acuity that may occur over the length of a hospital stay (LOS). The thirty day period may have prevented some patients with abnormally long LOS's from being included in the study. If this happened, those not included were probably very unusual or teaching cases. From observations of the data, if any patients were excluded because of abnormally long LOS's there were very few. This researcher believes this had no significant impact on the study since the daily average of PAP's was used and not total PAP's per case (see 8. below).

5. The abstracts in the study group were coded into DRG's by the researcher.

6. The most frequently observed DRG's (in terms of the number of cases) were determined. DRG's with less than four cases represented were not considered in the study.

7. The CCI for each represented DRG was determined.

8. The patient acuity worksheets for each patient in the study group were sorted by DRG. The patient acuity points (PAP's) for each DRG were totalled and averaged by patient days. This yielded the mean PAP per patient day for each DRG.

9. The two scales were tested for correlation and weighed against the criteria.

10. Findings were analyzed and recommendations made from the observations of the data. Future research needs were identified.

CHAPTER II

DIAGNOSIS RELATED GROUPS (DRG's)

History

Traditionally hospitals and other service institutions have had trouble defining their product. What is the output of a medical institution? Can it be defined in terms of the outcome of the process? Is it an episode of illness that is appropriately cared for?[28] In the past hospitals have addressed this question by using aggregate statistics such as patient days, and numbers of admissions and discharges. Some define their product as a general category of services offered such as acute care, psychiatric care, or diagnostic services. Still others describe it by the population served, such as indigent care and military medicine.[29]

With little agreement concerning the output of medical care, there is no common measure that can be used to determine efficiency, costs, revenues, or profits per unit.[30] These figures have usually been compared relative to inpatient days or outpatient visits. A significant problem with these measures is they do not recognize differences in individual patients. It was to adjust for this disparity, and thus provide a basis for effective utilization review that the development of DRG's began in the early 1970's at Yale University.[31]

> A DRG is a means of classifying patients in terms of expected consumption by him or her of hospital resources. A DRG is not an explicit measure of hospital or patient cost. Rather, it is a method of identifying patients who have similar resource consumption patterns and of classifying those patients into a manageable number of groups.[32]

The DRG system was developed based on early classification efforts of the late 1960's and a large data base consisting of 702,000 inpatient record abstracts, from 169 institutions in different geographical regions. First, a group of clinicians classified the eighth edition of the International Classification of Diseases Adapted (ICDA-8) codes into broad categories such as diseases of the circulatory system and diseases of the ear. These categories were termed major diagnostic categories (MDC's). Three criteria were used in the development of the MDC's:

1. MDC's were to be consistent in terms of anatomical/physiopathologic classification or in the manner they are clinically managed.

2. Each MDC was to have a sufficient sample sample size.

3. MDC's were to be mutually exclusive of one another and exhaustive over the entire range of disease codes.

Next, patient records were assigned to the MDC's based on the primary diagnosis contained in the abstract. Using AUTOGRP, an interactive computer system developed at Yale, the clinicians then partitioned the MDC's into medically meaningful groups based on length of stay (LOS).[33] Thus the researchers used LOS as the dependent variable as a surrogate for resource consumption.[34] The independent variables used were primary diagnosis, primary surgical procedure, age, condition at discharge and whether or not psychiatric services were provided. This effort yielded 383 terminal categories or DRG's.[35]

The groupings have since been updated using the 9th edition of the International Classification of Diseases with Clinical Modifications (ICD-9-CM) resulting in 23 MDC's and 467 DRG's.[36] This revision included data from 1.4 million patient abstracts from across the nation and over 334,900 from New Jersey. The Health Care Financing Administration (HCFA) added three groups for reimbursement purposes; DRG's 468 - 470 are Unrelated Surgical Procedures, Invalid Discharge Diagnosis and Ungroupable respectively.[37]

Uses of DRG's

Some authors claim DRG's have the ability to satisfy the disparate requirements for a product definition of clinicians, hospital managers, third party payors and health planners.[38] DRG's have been in widespread use since HCFA began using DRG's to prospectively establish Medicare reimbursement rates in 1983. This lends more weight to the argument for using DRG's as a common denominator or measure of output.

The potential uses of DRG's include quality assurance (QA) activities, utilization review, and health planning as well as reimbursement. Establishment of explicit QA screening criteria by DRG could greatly aid hospitals in their efforts to meet requirements for objective criteria based QA programs as required by the Joint Commission on the Accreditation of Hospitals (JCAH).[39] These criteria for review could include such items as abnormal LOS's, unexpected complications, unexpected surgical procedures, and unusual resource consumption patterns per DRG.[40]

Managers could develop resource consumption profiles by DRG for effective utilization review. This would enable them to measure practice patterns of health providers and specific hospital services. When compared with revenue received from the treatment of that DRG, the profitabilty of individual providers and services can be determined. This would aid in efforts to insure resources are not over or under utilized.

Comprehensive health planning and institutional strategic planning could also use DRG's to monitor trends in populations and in different geographical areas. By describing health products in terms of DRG's that measure resource consumption, allocation techniques could be refined and be based on anticipate changes in the DRG case mix. Thus high-cost resources could be targeted more effectively, and services could be provided where needed.

The reader should be aware that the optimism surrounding the use of DRG's is not shared by all authors in the literature. Some disagree with the proxy measure of LOS for resource consumption.[41] Others are concerned with a reported inability of DRG's to measure severity of illness,[42, 43] and with the homogeneity of the groupings.[44] There is considerable concern for the possibility of abuse through "DRG Creep,"[45] (altering DRG designations for increased reimbursement), and a reduced quality of care due to early discharge.

Although current evidence is not conclusive on these concerns, DRG's are widely used and are becoming an increasingly important common measurement methodology in American health care. Both opponents and proponents agree that DRG's will need to be refined as standards of medical care change to maintain any measure of validity.[46]

CHAPTER III

PATIENT CLASSIFICATION SYSTEMS & THE WORKLOAD MANAGEMENT SYSTEM (WMS)

Patient Classification Systems

A patient classification system, or patient acuity system, can be defined as "the systematic identification and assessment of the individualized nursing care requirements of a group of patients."[47] Nursing departments have developed these classification systems in response to a variety of needs, including the economic and quality considerations discussed in the introduction to this study.

There is also a regulatory basis for patient classification systems. Standard VIII of the American Nurses' Association (ANA) states, "Nursing Administration shall detail guidelines for utilization of nursing personnel."[48] Guideline C of the same standard refines the requirement; "Nursing Administration assigns categories of personnel to matching levels of competence in relation to consumer care needs."[49] The JCAH in its Accreditation Manual states, "Nursing department/service assignments in the provision of nursing care shall be commensurate with the qualifications of nursing personnel and shall be designed to meet the nursing needs of the patients."[50] The manual further requires nursing departments to, "...define, implement, and maintain a system for determining patient requirements for nursing care on the basis of demonstrated patient needs, appropriate nursing intervention, and priority for care."[51] Some

individual states also require the development of staffing systems in their laws and regulations concerning hospitals.[52] Patient classification systems are generally regarded as a method to fulfil these requirements.[53]

Classification systems can be categorized into one of three basic styles according to Lewis.[54] These are the descriptive style, the checklist type and the relative value unit (RVU) standard.

1. The descriptive style is a concise narrative approach in which the nurse places the patient into a category that best describes the level of care the patient needs. An objective assessment of specific nursing tasks or patient needs is not performed. While this is quick and easy this system is highly subjective and not very reliable between raters.

2. The checklist type of system divides nursing care into activity groups such as eating, grooming and excretion. Acuity levels are then assigned to each activity based on the judgement of the rater. The acuity levels are tallied and the patient is assigned to a category based on this total. Systems of this type are generally implemented based on subjective judgements concerning acuity and nurse time requirements. Time and motion studies are not usually done and inter-rater reliability is a problem.

3. Relative value unit (RVU) systems usually employ a number of activities and aspects of patient care. Each receives a value unit, usually a measure of time. These units are then totalled per patient and each patient is placed into a category. Staffing is then determined by using

tables relating numbers of patients in specific categories with required nursing staff. RVU systems vary greatly in complexity. Many are based on elaborate management engineering studies and provide numerous checks and balances to insure high inter-rater reliability and the prevention of acuity creep. The WMS is such a system.

It has been suggested that patient classification systems should meet five criteria to be effective as an allocation tool of nurse staffing.[55] The U.S. Army and U.S. Navy medical departments have determined the WMS meets these criteria.[56] The Air Force Medical Service is currently evaluating the WMS for use in its hospital system.[57] The criteria are:

1. Comprehensiveness: The system should classify all inpatients according to levels of nursing intensity and determine the amount of nursing time required to care for these patients. The system should account for both direct and indirect care.

2. Data Output: The system should produce a series of daily and monthly reports that are useful in the daily operation of the hospital and management of nursing resources. The reports should be timely and should provide information on actual patient days, actual nurse staffing and nurse workload by patient category, by shift, by nursing unit and by personnel category.

3. Data Input: The same definitions of patient categories should be used throughout the hospital.

4. Validity: The system should measure what it reports to measure.

5. Reliability: Reliability between those classifying patients must be maintained over time.

The Workload Management System (WMS)

The WMS was developed and tested through four years of rigorous field research and is often cited as the most comprehensive patient classification study accomplished to date.[58] The WMS is based on a time and motion study that measured over 300 separate nursing activities. These were grouped into nine critical indicators: Vital signs, Monitoring, Activities of Daily Living, Feeding, IV Therapy, Treatments/Procedures/ Medications, Respiratory Therapy, Teaching and Emotional Support and an additive for Continuous Coverage. These nine indicators are further divided into ninety-one separate activities.[59]

Each patient is evaluated against the ninety-one activities and assigned a point value for each. One point equals seven and one-half minutes of nursing time. The points are totalled by patient yielding the nursing care requirement for each patient per day. The accumulated points place the patient in a category. The categories are summed per nursing unit and compared to tables indicating the required staff by professional level.

CHAPTER IV

STUDY DISCUSSION

Description of the Sample

Six hundred ninety-two patients were tracked on ten nursing units during the study. Of these, 151 met the criteria specified in methodology steps 4. and 5. and were therefore considered in the final sample. The majority of the 541 patients not considered were eliminated because they were not grouped into a DRG with more than four cases. The second most frequent reason for elimination from the sample was transfer to a nursing unit not in the study. A few patients were not included because their hospital stay ended after the thirty day study period and others were excluded because of missing data.

No one clinical service or DRG major diagnostic category (MDC) constituted a majority of the sample of 692 or the sample of 151. Most clinical services and twenty-two of twenty-three MDC's were represented by the 692 patients. Ten services and six MDC's were present in the final sample of 151. Only one surgical service was in the final sample. Other surgical services were eliminated because of the small number of cases with surgeons recorded as the primary attending provider. See Tables 1, 2 and 3.

After the initial two week period of WMS implementation it was determined the trained nurses were properly using the system. Information

concerning this determination is extensively documented elsewhere.[60]

In the sample of 151 there were sixteen DRG's with four or more patients represented. The DRG's are listed in Table 4. The characteristics of the sample patients are detailed by DRG in Table 5 below. Nothing unusual was noted about these patient characteristics other than a wide range in the length of stay for certain DRG's. This variation occurred with DRG's in which one would expect to find little standardization of treatment. Examples are DRG's 17 and 138, nonspecific cerebrovascular disorders and arrythmia with complications. The ranges of groups with more specific and less complicated diagnoses tended to be smaller. These include DRG 278, cellulitis and DRG 391, normal newborns.

WHMC Unit Designation	Description
1A	Pediatrics
2D	Intensive Care
2E	Nursery
2ENICU	Neonatal Intensive Care
3C	Cardiology
3D	Coronary Care
5A	Surgical #1
5B	Surgical #2
6A	Medical #1
6B	Medical #2

Nursing Units Represented in the Study

Table 1.

Clinical Service*	# of Cases	% of Sample
Internal Medicine	27	15
Cardiology	39	27
Dermatology	2	1
Medical Intensive Care	6	4
Pulmonary Service	1	<1
Infectious Diseases	4	3
Cardiovascular Surgery	3	2
Renal Service	1	<1
Pediatrics	2	1
Nursery	66	45
	151	

* The clinical service shown is that of the primary attending physician.

Clinical Services Represented in the Study

Table 2.

Major Diagnostic Category	# of Cases	% of Sample
Diseases & Disorders of Nervous System	4	3
Diseases & Disorders of Respiratory System	11	7
Diseases & Disorders of Circulatory System	55	35
Diseases & Disorders of Skin, Subcutaneous Tissue and Breast	5	3
Endocrine, Nutritional and Metabolic Diseases and Disorders	10	7
Newborns and Other Neonates with Conditions Originating in the Perinatal Period	66	45
	151	

Major Diagnostic Categories Represented in the Study

Table 3.

DRG #	Description	Note; AMI = Acute Myocardial Infarction
17	Nonspecific cerebrovascular disorder without complications	
88	Chronic obstructive pulmonary disease	
89	Pneumonia, pleurisy, age $\geq$ 70 and/or complications	
121	AMI, alive with cardiovascular complications	
122	AMI, alive without cardiovascular complications	
124	No AMI, cardiac catheterization with complex diagnosis	
125	No AMI, cardiac catheterization without complex diagnosis	
132	Atherosclerosis, age $\geq$ 70 and/or complications	
138	Arrythmia and conduction disorders, age $\geq$ 70 and/or complications	
140	Angina	
143	Chest pain	
278	Cellulitis without complications	
294	Diabetes, age $\geq$ 36	
295	Diabetes, age < 36	
390	Normal newborn with minor secondary diagnosis	
391	Normal newborn without significant secondary diagnosis	

DRG's Represented in Sample

Table 4.

DRG	# of Cases	Mean Age (Range)	% Male	% Female	Mean Length of Stay (Range)
17	4	45 (19-71)	100	0	16 (03-33)
88	6	58 (45-74)	33	67	7 (03-12)
89	5	53 (37-72)	0	100	6 (04-09)
121	6	62 (48-77)	50	50	12 (07-14)
122	8	59 (13-83)	50	50	12 (06-23)
124	8	64 (53-70)	87	13	13 (07-22)
125	12	40 (04-66)	83	17	3 (02-04)
132	4	64 (56-69)	100	0	15 (06-24)
138	5	69 (59-84)	80	20	8 (03-11)
140	7	64 (46-80)	43	57	2 (01-05)
143	7	60 (44-80)	57	43	2 (01-04)
278	5	26 (19-43)	80	20	6 (04-08)
294	6	52 (38-63)	67	33	8 (02-14)
295	4	24 (18-32)	50	50	6 (02-15)
390	4	1	50	50	7 (04-15)
391	62	1	47	53	3 (02-08)
	151				

Sample Characteristics by DRG

Table 5.

Results

The mean patient acuity points (PAP's), as calculated in methodology step 8., and the case complexity index (CCI) for each DRG were placed on a scatterplot as the dependent and independent variables respectively (See Appendix C). From the observed wide scatter of the points one would expect little correlation between the two. Indeed the calculations produced an r value of .1284 and an r^2 value of .0165 (see Appendix D). For this sample of patients, about one and two-thirds per cent of the variation in PAP's is explained by the CCI. When these findings were weighed against the criteria, DRG's were determined not to be an indicator of nurse staffing requirements.

Although it has been reported that about 40% of hospital costs can be explained by DRG's,[61] this study indicates nursing time per patient cannot be explained by the CCI. These findings are consistent with another study of the impact of two severity of illness measurements on DRG revenues.[62]

These findings have additional implications for hospitals reimbursed by DRG systems. Since the CCI does not correlate with the PAP's, which are a direct measure of time a nurse spends with a given patient, these hospitals are probably not being reimbursed equitably for nursing care. Hospitals cannot use the CCI as an easy method to ascertain the true cost for nursing care per DRG. Thus the hospital cannot accurately charge for nursing care based on the CCI. Hospitals should not attempt to contain costs by managing nursing time per CCI (or DRG reimbursement).

Other Findings

Although the correlation of the PAP's and the CCI was low, further analysis of the PAP's per DRG revealed a possible alternative method of determining nurse staffing requirements by DRG. The grouped frequency distributions in Appendix E and descriptive statistics in Appendix F suggest PAP's per DRG may be normally distributed.

When a Chi-square Goodness of Fit test was applied with a null hypothesis of a normal population, ten of the sixteen DRG's were rejected at the 95% confidence level. Six DRG's could not be rejected. The applicability of this test can be questioned since the observations were not independent samples.[63] For example, DRG 124 had sixty-three observations but they were from only eight patients. Another problem with this test arises from the statistical computer program used. All observations are forced in to six groupings thereby setting the degrees of freedom at five.

The six non-rejected DRG's did however have coefficients of skewness relatively close to zero[64] and coefficients of kurtosis close to three,[65] lending further evidence of a normally shaped distribution. When just the coefficients of skewness and kurtosis are considered, another four DRG's appear to be somewhat normally distributed (see Table 6).

With two exceptions (DRG 121, Acute myocardial infarction, alive with complications & DRG 138, Arrythmia with complications) all ten DRG's that appear to be normally distributed are ones that would be expected to have

highly standardized treatment protocols. This standardization could explain the close to normal distributions with such a small sample size.

Considering the size of this study, this normal tendency is a significant finding. The reader should be aware of two factors that make this normal tendency more important. If the sample size was larger, one would expect more DRG's to approach a normal distribution as the number of cases per DRG grew (Central Limit Theorum[66]). Also, as treatment regimes become more standardized in response to DRG based reimbursement PAP's per DRG should become more tightly grouped.

For DRG's with normal distributions it may be possible to use the mean PAP as an indicator of nurse staffing requirements. Using the mean PAP for each DRG (instead of its CCI) with a case mix model could lead to prospective nurse resource allocation. This would greatly benefit multi-hospital systems and health planning activities. Nursing requirements could be planned on a large scale while considering the impacts of anticipated changes to the case mix at the institutional level. Thus the benefits of using a DRG based patient classification system as described in the introduction to this study could be realized. However, this mean may be too much of a "grand average" to be of use for daily intra-hospital staffing. From the observations of the data collected, PAP's vary widely over the course of a hospital stay for most DRG's. Intuitively, this researcher believes this variation is a function of when in the course of the illness a patient is admitted, when surgical procedures and diagnostic tests are

performed and when the onset of complications occurs. For this reason the PAP mean may not be sensitive enough to measure the daily fluctuations of patients' needs.

DRG	# of Cases	# of PAP Observations	Accepted as Normal @ 95% Level?	Coefficient of Skewness	Coefficient of Kurtosis
17	4	59	No	1.615	4.363
88	6	38	No	2.162	7.169
89	5	25	No	1.084	2.376
121*	6	44	No	.623	2.148
122*	6	58	No	.664	2.510
124	8	63	No	1.284	1.284
125*	12	35	Yes	.359	2.553
132	4	59	No	2.330	8.645
138*	5	19	Yes	-.300	2.279
140*	7	23	No	.019	3.861
143*	7	26	Yes	.285	3.467
278*	5	21	Yes	.569	2.253
294*	6	34	No	-.238	2.396
295*	4	21	Yes	.688	3.061
390	4	13	No	1.192	2.554
391*	62	244	Yes	.996	2.337
	151			* DRG appears normal by skewness and kurtosis	

Goodness of Fit, Skewness and Kurtosis Results

Table 6.

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study indicates the use of the case complexity index (CCI) associated with diagnosis related groups (DRG's) is not an indicator of nurse staffing requirements.

Although the original concept of how to use DRG's could not be accepted by the predetermined criteria, in light of other findings made during the course of this study, it is the researcher's conclusion that DRG's may still be useful indicators of nurse staffing requirements on a macro scale. This could be done by determining DRG's with normally distributed patient acuity points (PAP's). Using the mean PAP for these DRG's as indicators of requirements, staffing could be projected and prospectively allocated using a methodology incorporating anticipated changes to the DRG case-mix. Due to these findings the researcher has revised the conceptual equation described in the Introduction (see figure 2).

$$\text{Requirements} = \frac{\text{Sum of all DRG's (PAP for DRG}_n\text{) X (Frequency of DRG}_n\text{ + AC)}}{\text{Nursing Productivity per PAP}}$$

NOTE: AC = anticipated changes

Revised Conceptual Equation

Figure 2.

Recommendations

Recommendation: The CCI should not be used to determine nurse staffing requirements.

Recommendation: Other hospitals reimbursed by a DRG system should evaluate the ability of the CCI to predict nursing time spent with patients. If the results are consistent with this study's, the hospitals should not charge for nursing care based on CCI or attempt to manage nursing time per patient by CCI.

Recommendation: Further research should be conducted to determine if PAP's are normally distributed for other or all DRG's.

Recommendation: Further research should be conducted to determine if other patient classification systems correlate with the CCI.

Recommendation: This study should be replicated if the DRG weights (CC_i) are changed. (Note: As mentioned in the Introduction, the HCFA is currently proposing the weights be revised for fiscal year 1986 use.)

FOOTNOTES

[1]Susie M. Sherrod, "Patient Classification System: A Link Between Diagnosis-Related Groupings and Acuity Factors," Military Medicine, (September 1984), p. 506.

[2]Howard J. Berman and Lewis E. Weeks, The Financial Management of Hospitals, 5th ed., (Ann Arbor: Health Administration Press, 1982), p. 305.

[3]Ibid.

[4]Stephen Tucker, Lecture, U.S. Army-Baylor University Graduate Program in Health Care Administration, from original research, (San Antonio: June 1984).

[5]Phyllis Giovannetti, "Understanding Patient Classification Systems," Journal of Nursing Administration, (February 1979), p. 5.

[6]Gwynn X. Lamont, "The Impact of Patient Condition Considerations Upon Nursing Department Staffing and Scheduling Requirements," MS, n.d., rpt., Nurse Staffing Based on Patient Classification, An Examination of Case Studies, (Chicago: American Hospital Assn., 1983), p. 13.

[7]Ibid.

[8]Robert G. Vaughan and Vernon MacLeod, "Nurse Staffing Studies: No need to Reinvent the Wheel," Journal of Nursing Administration, (March 1980), p. 10.

[9]Elizabeth N. Lewis and Patricia V. Carini, Nurse Staffing and Patient Classification, Stratagies for Success, (Rockville: Aspen Systems Corp., 1984), pp. 63-67.

[10]Lamont, p. 13.

[11]Bettie S. Jackson and Joan Resnick, "Comparing Classification Systems," Nursing Management, (November 1982), p. 13.

[12]Ibid., p. 14.

[13]Pamela Reinert and Donald R. Grant, "A Classification System to Meet Today's Needs," Journal of Nursing Administration, (January 1981), p. 21.

[14]Giovannetti, p. 7.

[15]Jeffrey R. Jay,, "Managers and Physicians Work Together to Reduce Healthcare Costs," Healthcare Financial Management, (February 1985), p. 42.

[16]Ibid.

[17]David Burik and John G. Nackel, "Diagnosis-Related Groups: Tool for Management," Hospital and Health Services Administration, (Winter 1981), p. 26.

[18]Ibid.

[19]Richard F. Averill et al., The Revised ICD-9-CM Diagnosis Related Groups, (New Haven: DRG Support Group Ltd., Health Systems International, 1983), p. 9.

[20]Ibid.

[21]Burick and Nackel, p. 26.

[22]Federal Register, (Washington: U.S. Government Printing Office, September 1, 1983), p. 39841.

[23]Sherrod, p. 506.

[24]Karen A. Rieder and Terrence L. Kay, "Diagnosis Related Groups: Potential Impact on Navy Health Care," Military Medicine, (May 1985), p. 270.

[25]D. W. Simborg, "DRG Creep. A New Hospital Acquired Disease," New England Journal of Medicine, (1981), pp. 1602-1604.

[26]MICROSTAT, (Ecosoft Inc. 1983).

[27]Patricia Williams et al., "Evaluation of the U.S. Army and Navy Workload Management System: Psychometric Characteristics and Usefulness for Patient Classification and Staffing Allocations in the Air Force Medical Service," unfinished MS as of this date (San Antonio: Wilford Hall USAF Medical Center).

[28]Don Schneider and Al Purziale, "Development of Medical Classification Systems for Productivity Analysis," MS, rpt., Proceedings of the 7th Annual Conference of the Hospital and Health Services Division of the American Institute of Industrial Engineers, February 9-11, 1976, (Colorado Springs: American Institute of Industrial Engineers, 1976), p. 284.

[29]Burik and Nackel, p. 25.

[30]Schneider and Purziale, p. 284.

[31]Burik and Nackel, p. 26.

[32]Ibid.

[33]D. C. Riedel and R. F. Averill, "AUTOGRP an Interactive Computer System for the Analysis of Health Care Data," Medical Care, (July 1976) p. 603.

[34]Burik and Nackel, p. 30.

[35]Ibid.

[36]Averill et al., p. 9.

[37]Robert B. Fetter et al., "Construction of Diagnosis Related Groups," Medical Care, (February 1980), p. 5.

[38]Burik and Nackel, p. 38.

[39]Accreditation Manual for Hospitals/85, (Chicago: Joint Commission on Accreditation of Hospitals (JCAH), 1984), pp. 149-152.

[40]Elizabeth A. Daubert, "Patient Classification System and Outcome Criteria," Nursing Outlook, (July 1979), p. 450.

[41]Robert B. Fetter et al., "Case Mix Accounting in Hospital Budgeting, Cost Control and Prospective Reimbursement," Medical Care, (February 1980) p. 29.

[42]Sharon L. Kreitzer et al., "Severity of Illness: The DRGs' Missing Link?" Quality Review Bulletin, (May 1982), p. 21.

[43]B. S. Eisenberg, "Diagnosis-Related Groups, Severity of Illness, and Equitable Reimbursement Under Medicare," Journal of the American Medical Association, (February 1984), pp. 645-646.

[44]Robert B. Swinkola et al., "Assessment of the AUTOGRP Patient Classification System," Medical Care, (February 1980), p. 228.

[45]Simborg, pp. 1602-1604.

[46]Burik and Nackel, p. 30.

[47]Lewis and Carini, p. 51.

[48]Standards for Nursing Services, (Kansas City: American Nurses Assn. (ANA), 1973), p. 2.

[49]Ibid.

[50]JCAH, p. 97.

[51]Ibid., p. 98.

[52]Lewis and Carini, p. 7.

[53]Ibid., p. 51.

[54]Ibid., p. 52.

[55]Workload Management System Educational Workbook, (San Antonio: U.S. Air Force Medical Service, n.d.), p. 4.

[56]Rieder and Kay, p. 270.

[57]Williams et al.

[58]Sherrod, p. 506.

[59]Workload Management System Educational Workbook, p. 5.

[60]Williams et al.

[61]Kathy Fackelmann, "Research Finds Method for Nursing Home PPS," Modern Healthcare, (April 26, 1985), p. 72.

[62]"Case-Mix Severity Found Not to Affect Hospital Revenues," Hospitals, (December 1, 1984), p. 32.

[63]William Mendenhall and James E. Reinmuth, Statistics for Management and Economics, (Belmont: Duxbury Press 1971), pp. 442-443.

[64]Frederick E. Croxton and Dudley J. Cowden, Applied General Statistics, (New York: Prentice-Hall, 1939), p. 259.

[65]Ibid., p. 257.

[66]Mendenhall and Reinmuth, p. 153.

[67]Jack W. Owen, ed., "Proposed Medicare Regulations Call for Freeze on DRG Payments," AHA Washington Memo, (May 31, 1984) p. 4.

APPENDIX A

EXAMPLE PATIENT ACUITY WORKSHEET

UNIT 2E DATE 30 Nov 84 TIME [illegible]

SIGNATURE [illegible]

PATIENT ACUITY WORKSHEET

POINT VALUES	CRITICAL INDICATORS	M.E. Smith [illegible]	[illegible]	[illegible]	A. M[illegible]	[illegible]
	VITAL SIGNS (MANUAL TPR BP)					
(2)	Vital signs qid or less					
(3)	Vital signs q4h or x 6	3	3		3	
(6)	Vital signs q2h or x 12					
(12)	Vital signs q1h or x 24					12
(2)	Rectal or axillary temps q4h or more		2	2	2	2
(2)	Apical or femoral or pedal pulses or FHT q4h or more			2	2	
(2)	Tilt tests q4h or more					
(6)	Routine post op					
(3)	Vital signs q3h or x 8					
	MONITORING					
(2)	Intake and output q8h	2	2		2	
(8)	Intake and output q2h					16
(2)	Circulation or fundus checks q2h or x 12					
(3)	Neuro checks q4h or x 6		3		3	
(6)	Neuro checks q2h or x 12					12
(2)	CVP or ICP (manual) q2h or x 12					2
(6)	Cardiac apnea temp pressure monitors (not cumulative)		6	6		6
(6)	Transcutaneous monitor					
(4)	A line or ICP (monitor) or Swan Ganz set up					
(2)	A line or ICP (monitor) reading q2h or x 12					
(2)	PAP PA wedge reading q4h or x 6					
(4)	PAP/PA wedge reading q2h or x 12					4
(5)	Cardiac output q4h or x 6					
	ACTIVITIES OF DAILY LIVING					
(6)	Infant toddler care (≤ 5 years)			6		
(2)	Self care (adult or child ≥ 5 years)					
(8)	Assisted care (≥ 5 years) positions self	8				
(16)	Complete care (≥ 5 years) assist with positioning		16			
(34)	Total care (≥ 5 years) position and skin care q2h				34	34
(4)	Extra linen change and partial bath 2x per shift					4
(16)	Turning frame (2 staff to turn q2h)					
(8)	Peds recreation/observation ≤ 5 years (exclude NBN)					
	FEEDING					
(5)	Tube feed adult child neonate q4h or x 6		5		5	
(10)	Tube feed adult/child/neonate q2h or x 12					
(6)	Adult meals ≥ 5 years (spoon feed x 3)					
(10)	Child meals ≤ 5 years (spoon feed x 3)					
(2)	Infant-neonate bottle x 1 feeding					
(12)	Infant-neonate bottle q4h or x 6					
(24)	Infant neonate bottle q2h or x 12			24		
(8)	Tube feed adult child neonate q3h or x 8					
	SUBTOTAL	11	37	40	5[illegible]	92

Patient Acuity Worksheet Sample

PATIENT ACUITY WORKSHEET (continued)

POINT VALUES	CRITICAL INDICATORS	NAME: Mary Smith	George Jesse	Patrick O'Brien	Marie Morinus	E.T. Space
	TREATMENTS/PROCEDURES/MEDICATIONS					
	Simple > 15 and < 30 Minutes total					
(2)	Start IV or NG or Foley or EKG		2		2	
(2)	OR prep or enemas or ace wraps/teds					
(2)	Simple dressing or tube care, Foley care (exclude bath)	2	2			
(2)	S&A or SpGr or Guiac or spin HCT x 6			2	2	
(2)	Lab studies x 6, ABG or blood culture x 3		2		4	
(2)	Medications q3h - q8h (exclude IV)					
(2)	Irrigations or instillations x 4 or less					
(2)	Restraints (2 or 4 point or posey)		2			
(2)	Assist ODE to chair/stretcher x 3	2				
(2)	Assist ODE, walk & return x 1	2				
(2)	Infant circumcision or phototherapy					
(2)	Accompany patient off ward > 15 min and < 30 min		2			
(2)	Other activities requiring > 15 minutes and < 30 minutes				2	
	Complex > 30 minutes and < 1 Hour total					
(4)	Chest tube insertion or lumbar puncture				4	
(4)	Thoracentesis or paracentesis					
(4)	Complex dressing change (> 30 minutes to complete)					
(4)	Straight catheterization x 4 or more			4		
(4)	Medication q2h or more (exclude IV)					
(4)	Range of motion exercises x 3		4	4		
(4)	Accompany patient off ward > 30 minutes					
(4)	Other activities requiring > 30 minutes and < 1 hour					
	Special Procedures > 1 Hour Total					
(8)	Each hour requiring continuous staff attendance/assistance					
	RESPIRATORY THERAPY					
(2)	Oxygen therapy or oxyhood		2		2	
(2)	Incentive spirometer or C & DE q4h	2				
(2)	IPPE or maximist bid or x 2					
(4)	IPPB or maximist q6h or x 4					
(8)	IPPE or maximist q4h or x 8					
(8)	Croup tent or mist tent					
(2)	Chest pulmonary therapy bid or x 2					
(4)	Chest pulmonary therapy q6h or x 4					
(8)	Chest pulmonary therapy q4h or x 8					
(2)	Suctioning q4h or x 6					
(4)	Suctioning q2h or x 12			4		
(16)	Ventilator				16	
(4)	Tracheostomy care x 3			4		
	SUBTOTAL	6	16	12	28	

PATIENT ACUITY WORKSHEET (continued)

POINT VALUES	CRITICAL INDICATORS	NAME: MARY SMITH	GEORGE JESSE	PATRICK O'BRIEN	M. MORNINGST	E.T. SPACIE
	IV THERAPY					
(4)	KVO	A	4	4	4	
(4)	Heparin lock or Broviac					
(6)	Simple (change bottle q5 - 8 hours)		6		6	
(8)	Complex (2 or more sites or change bottle q4h)				8	
(2)	Medication q8h or x 3	2				
(3)	Medication q6h or x 4		3		3	
(4)	Medication q4h or x 6					
(4)	Blood products					
	TEACHING AND EMOTIONAL SUPPORT (Must be documented)					
	Teaching					
(4)	Admission assessment and orientation		4			
(4)	Preoperative teaching					
(4)	Special structured teaching (diabetic, cardiac, etc.)			4		
	Emotional Support (in excess of 30 min q 24 hours)					
(4)	Patient/family support (anxiety, denial, loneliness, etc.)			4	4	4
(4)	Lifestyle modification (prosthesis, behavior, image, etc.)					
(6)	Sensory deprivation (retarded, deaf, blind, etc.)					
(10)	Maximum points for emotional support					
	CONTINUOUS					
(96)	Patient requiring 1:1 coverage all shifts					
(146)	Patient requiring greater than 1:1 coverage all shifts					
	TOTAL	25	66	54	79	143

POINTS	CATEGORY	TOTALS
0-12	I	
13-31	II	1
32-63	III	1
64-95	IV	11
96-145	V	1
146-639	VI	

CENSUS = 5

NOTES:

1. For any treatment/procedure that requires multiple nursing staff to perform, multiply the critical indicator point value by the number of staff required
2. Adjust points to accommodate frequency, i.e., intake and output q1h = 16
3. Count only those procedures performed by the nursing staff or family member

APPENDIX B

EXAMPLE INPATIENT RECORD ABSTRACT

*** LISTING OF PATIENTS ADMITTED AND CODED OUT ***
FOR THE PERIOD OF JAN 22 - MAR 16 85

19/03/85

REGNUM	PATIENT NAME	PTCAT	BRSVC	RANK	DISP DATE	ADM DATE	AGE	SEX	TOT-BED-DAYS	TOT-NON-BD-DAYS
[redacted]		31	F	37	28-JAN-85	16-JAN-85	79	M	0012	0000

DIAGNOSIS # 1 — CODES
SEVERE AORTIC STENOSIS — 42410 0

DIAGNOSIS # 2 — CODES
SEVERE CORONARY ARTERY DISEASE WITH ANGINA — 41490 041300 0

DIAGNOSIS # 3 — CODES
HYPERTENSION — 40190 0

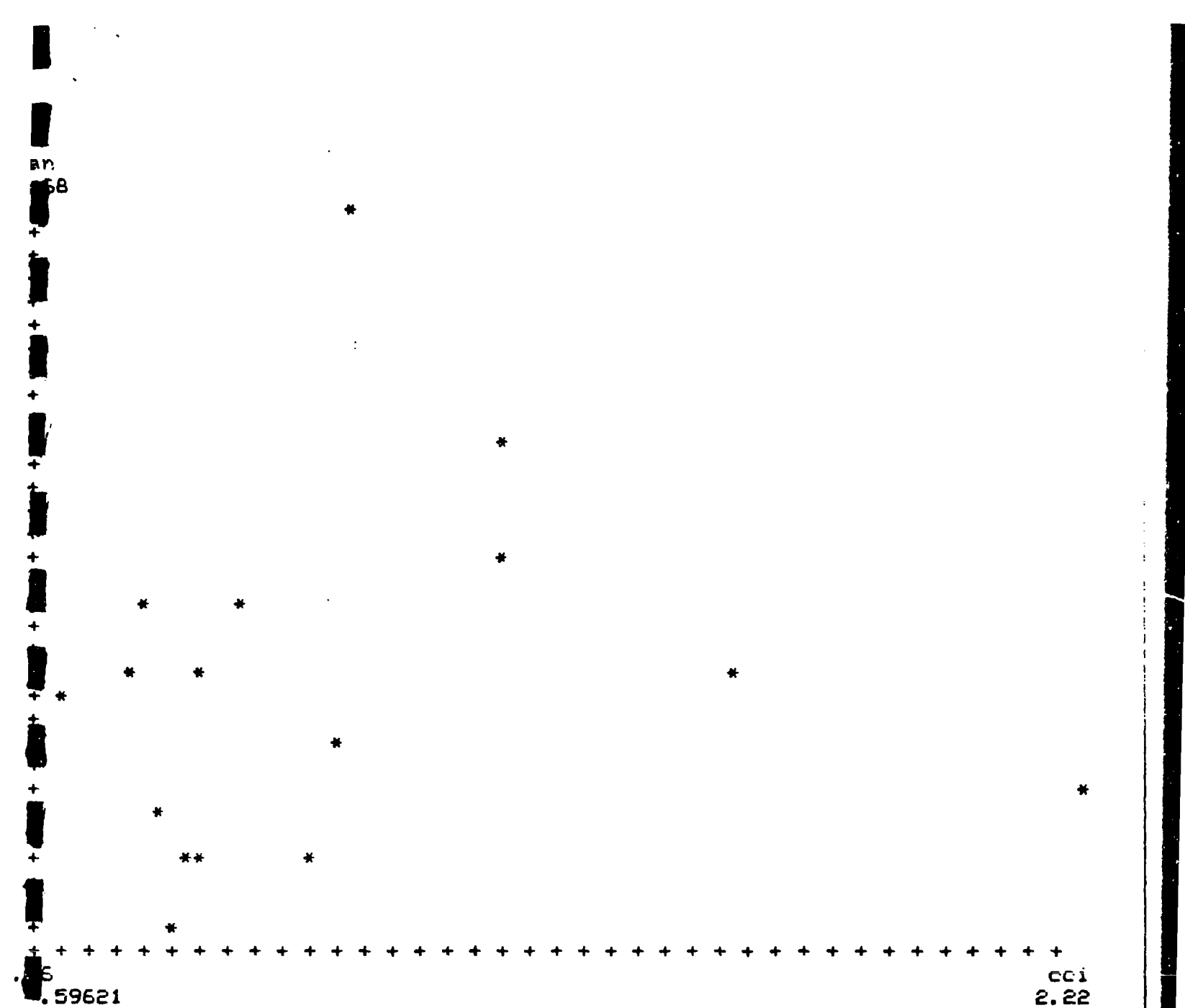
DIAGNOSIS # 4 — CODES
VENTRICULAR ECTOPY — 42760 0

OPERATION # 1 — CODES
001CARDIAC CATHETERIZATION — 1273BD1850122 406359

CLINIC SERVICE #1	CL SVC BED DAYS	CL SVC TOT DAYS	CL SVC NON BD DAYS
449	0012	0012	0000

APPENDIX C

SCATTERPLOT OF PATIENT ACUITY POINTS & CASE COMPLEXITY INDEX



SCATTERPLOT

ORDER DATA FOR: A:REGRESSI LABEL: regression
NUMBER OF CASES: 16 NUMBER OF VARIABLES: 2

APPENDIX D

REGRESSION ANALYSIS

---------- REGRESSION ANALYSIS ----------

HEADER DATA FOR: A:REGRESSI LABEL: regression
NUMBER OF CASES: 16 NUMBER OF VARIABLES: 2

---

regression

INDEX	NAME	MEAN	STD. DEV.
1	cci	1.03	.42
DEP. VAR.:	mean	27.82	14.06

DEPENDENT VARIABLE: mean

VAR.	REGRESSION COEFFICIENT	STD. ERROR	T(DF= 14)	PROB.
cci	4.28	8.83	.485	.63549
CONSTANT	23.43			

STD. ERROR OF EST. = 14.43
r SQUARED = .0165
r = .1284

ANALYSIS OF VARIANCE TABLE

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F RATIO	PROB.
REGRESSION	48.88	1	48.88	.235	.6355
RESIDUAL	2914.74	14	208.20		
TOTAL	2963.62	15			

	OBSERVED	CALCULATED	RESIDUAL	STANDARDIZED RESIDUALS -2.0 ... 0 ... 2.0
1	9.360	26.733	-17.37	
2	23.630	27.852	-4.22	
3	37.550	28.992	8.56	
4	20.190	32.935	-12.75	
5	28.490	30.574	-2.08	
6	28.410	26.969	1.44	
7	33.470	27.181	6.29	
8	29.000	26.441	2.56	
9	26.890	25.985	.90	
10	14.300	26.869	-12.49	
11	18.380	26.647	-8.27	
12	34.100	26.528	7.57	
13	14.380	27.670	-13.29	
14	14.610	26.877	-12.27	
15	64.680	27.982	36.70	
16	47.680	28.954	18.73	

DURBIN-WATSON TEST = 1.5648

APPENDIX E

GROUPED FREQUENCY DISTRIBUTIONS OF PATIENT ACUITY POINTS PER DRG

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG17 LABEL: pap
NUMBER OF CASES: 59 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg17

=====CLASS LIMITS=====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	5.00	16	27.12	16	27.12
5.00	<	10.00	26	44.07	42	71.19
10.00	<	15.00	6	10.17	48	81.36
15.00	<	20.00	3	5.08	51	86.44
20.00	<	25.00	3	5.08	54	91.53
25.00	<	30.00	4	6.78	58	98.31
30.00	<	35.00	1	1.69	59	100.00
		TOTAL	59	100.00		

=====CLASS LIMITS=====			FREQUENCY	
.00	<	5.00	16	|================
5.00	<	10.00	26	|==========================
10.00	<	15.00	6	|======
15.00	<	20.00	3	|===
20.00	<	25.00	3	|===
25.00	<	30.00	4	|====
30.00	<	35.00	1	|=

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG88 LABEL: pap
NUMBER OF CASES: 38 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg88

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	5.00	1	2.63	1	2.63
5.00	<	10.00	7	18.42	8	21.05
10.00	<	15.00	12	31.58	20	52.63
15.00	<	20.00	4	10.53	24	63.16
20.00	<	25.00	2	5.26	26	68.42
25.00	<	30.00	3	7.89	29	76.32
30.00	<	35.00	2	5.26	31	81.58
35.00	<	40.00	2	5.26	33	86.84
40.00	<	45.00	1	2.63	34	89.47
45.00	<	50.00	1	2.63	35	92.11
50.00	<	55.00	0	.00	35	92.11
55.00	<	60.00	0	.00	35	92.11
60.00	<	65.00	0	.00	35	92.11
65.00	<	70.00	0	.00	35	92.11
70.00	<	75.00	0	.00	35	92.11
75.00	<	80.00	1	2.63	36	94.74
80.00	<	85.00	0	.00	36	94.74
85.00	<	90.00	0	.00	36	94.74
90.00	<	95.00	0	.00	36	94.74
95.00	<	100.00	1	2.63	37	97.37
100.00	<	105.00	1	2.63	38	100.00
		TOTAL	38	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00	<	5.00	1 |==
5.00	<	10.00	7 |==========
10.00	<	15.00	12 |==============================
15.00	<	20.00	4 |==========
20.00	<	25.00	2 |====
25.00	<	30.00	3 |=======
30.00	<	35.00	2 |====
35.00	<	40.00	2 |====
40.00	<	45.00	1 |==
45.00	<	50.00	1 |==
50.00	<	55.00	0 |
55.00	<	60.00	0 |
60.00	<	65.00	0 |
65.00	<	70.00	0 |
70.00	<	75.00	0 |
75.00	<	80.00	1 |==
80.00	<	85.00	0 |
85.00	<	90.00	0 |
90.00	<	95.00	0 |
95.00	<	100.00	1 |==
100.00	<	105.00	1 |==

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG89 LABEL: pap
NUMBER OF CASES: 25 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg89

a

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	(	10.00	0	.00	0	.00
10.00	(	20.00	7	28.00	7	28.00
20.00	(	30.00	9	36.00	16	64.00
30.00	(	40.00	2	8.00	18	72.00
40.00	(	50.00	0	.00	18	72.00
50.00	(	60.00	0	.00	18	72.00
60.00	(	70.00	0	.00	18	72.00
70.00	(	80.00	0	.00	18	72.00
80.00	(	90.00	0	.00	18	72.00
90.00	(	100.00	0	.00	18	72.00
100.00	(	110.00	0	.00	18	72.00
110.00	(	120.00	1	4.00	19	76.00
120.00	(	130.00	0	.00	19	76.00
130.00	(	140.00	1	4.00	20	80.00
140.00	(	150.00	0	.00	20	80.00
150.00	(	160.00	1	4.00	21	84.00
160.00	(	170.00	1	4.00	22	88.00
170.00	(	180.00	1	4.00	23	92.00
180.00	(	190.00	2	8.00	25	100.00
		TOTAL	25	100.00		

=====CLASS LIMITS====			FREQUENCY	
.00	(	10.00	0	|
10.00	(	20.00	7	|==========
20.00	(	30.00	9	|==========
30.00	(	40.00	2	|======
40.00	(	50.00	0	|
50.00	(	60.00	0	|
60.00	(	70.00	0	|
70.00	(	80.00	0	|
80.00	(	90.00	0	|
90.00	(	100.00	0	|
100.00	(	110.00	0	|
110.00	(	120.00	1	|===
120.00	(	130.00	0	|
130.00	(	140.00	1	|===
140.00	(	150.00	0	|
150.00	(	160.00	1	|===
160.00	(	170.00	1	|===
170.00	(	180.00	1	|===
180.00	(	190.00	2	|======

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG121 LABEL: pap
NUMBER OF CASES: 44 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg121

a

CLASS LIMITS			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	(	10.00	5	11.36	5	11.36
10.00	(	20.00	5	11.36	10	22.73
20.00	(	30.00	5	11.36	15	34.09
30.00	(	40.00	10	22.73	25	56.82
40.00	(	50.00	4	9.09	29	65.91
50.00	(	60.00	1	2.27	30	68.18
60.00	(	70.00	1	2.27	31	70.45
70.00	(	80.00	2	4.55	33	75.00
80.00	(	90.00	4	9.09	37	84.09
90.00	(	100.00	2	4.55	39	88.64
100.00	(	110.00	4	9.09	43	97.73
110.00	(	120.00	0	.00	43	97.73
120.00	(	130.00	1	2.27	44	100.00
		TOTAL	44	100.00		

CLASS LIMITS			FREQUENCY	.....
.00	(	10.00	5	|==========
10.00	(	20.00	5	|==========
20.00	(	30.00	5	|==========
30.00	(	40.00	10	|==========
40.00	(	50.00	4	|========
50.00	(	60.00	1	|==
60.00	(	70.00	1	|==
70.00	(	80.00	2	|====
80.00	(	90.00	4	|========
90.00	(	100.00	2	|====
100.00	(	110.00	4	|========
110.00	(	120.00	0	|
120.00	(	130.00	1	|==

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG122 LABEL: pap
NUMBER OF CASES: 58 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg122

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	5.00	0	.00	0	.00
5.00	<	10.00	5	8.62	5	8.62
10.00	<	15.00	10	17.24	15	25.86
15.00	<	20.00	3	5.17	18	31.03
20.00	<	25.00	4	6.90	22	37.93
25.00	<	30.00	4	6.90	26	44.83
30.00	<	35.00	6	10.34	32	55.17
35.00	<	40.00	5	8.62	37	63.79
40.00	<	45.00	0	.00	37	63.79
45.00	<	50.00	1	1.72	38	65.52
50.00	<	55.00	3	5.17	41	70.69
55.00	<	60.00	4	6.90	45	77.59
60.00	<	65.00	4	6.90	49	84.48
65.00	<	70.00	3	5.17	52	89.66
70.00	<	75.00	0	.00	52	89.66
75.00	<	80.00	2	3.45	54	93.10
80.00	<	85.00	0	.00	54	93.10
85.00	<	90.00	2	3.45	56	96.55
90.00	<	95.00	1	1.72	57	98.28
95.00	<	100.00	0	.00	57	98.28
100.00	<	105.00	1	1.72	58	100.00
		TOTAL	58	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00	<	5.00	0 |
5.00	<	10.00	5 |==========
10.00	<	15.00	10 |==========
15.00	<	20.00	3 |=======
20.00	<	25.00	4 |=========
25.00	<	30.00	4 |=========
30.00	<	35.00	6 |==============
35.00	<	40.00	5 |==========
40.00	<	45.00	0 |
45.00	<	50.00	1 |==
50.00	<	55.00	3 |=======
55.00	<	60.00	4 |=========
60.00	<	65.00	4 |=========
65.00	<	70.00	3 |=======
70.00	<	75.00	0 |
75.00	<	80.00	2 |=====
80.00	<	85.00	0 |
85.00	<	90.00	2 |=====
90.00	<	95.00	1 |==
95.00	<	100.00	0 |
100.00	<	105.00	1 |==

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG124 LABEL: pap
NUMBER OF CASES: 63 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg124

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	(	5.00	1	1.59	1	1.59
5.00	(	10.00	22	34.92	23	36.51
10.00	(	15.00	9	14.29	32	50.79
15.00	(	20.00	8	12.70	40	63.49
20.00	(	25.00	2	3.17	42	66.67
25.00	(	30.00	5	7.94	47	74.60
30.00	(	35.00	3	4.76	50	79.37
35.00	(	40.00	4	6.35	54	85.71
40.00	(	45.00	3	4.76	57	90.48
45.00	(	50.00	4	6.35	61	96.83
50.00	(	55.00	0	.00	61	96.83
55.00	(	60.00	0	.00	61	96.83
60.00	(	65.00	0	.00	61	96.83
65.00	(	70.00	0	.00	61	96.83
70.00	(	75.00	2	3.17	63	100.00
		TOTAL	63	100.00		

=====CLASS LIMITS====			FREQUENCY	
.00	(	5.00	1	|=
5.00	(	10.00	22	|==========
10.00	(	15.00	9	|=========
15.00	(	20.00	8	|========
20.00	(	25.00	2	|==
25.00	(	30.00	5	|=====
30.00	(	35.00	3	|===
35.00	(	40.00	4	|====
40.00	(	45.00	3	|===
45.00	(	50.00	4	|====
50.00	(	55.00	0	|
55.00	(	60.00	0	|
60.00	(	65.00	0	|
65.00	(	70.00	0	|
70.00	(	75.00	2	|==

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG125 LABEL: pap
NUMBER OF CASES: 35 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg125

a

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	5.00	3	8.57	3	8.57
5.00	<	10.00	0	.00	3	8.57
10.00	<	15.00	3	8.57	6	17.14
15.00	<	20.00	6	17.14	12	34.29
20.00	<	25.00	4	11.43	16	45.71
25.00	<	30.00	4	11.43	20	57.14
30.00	<	35.00	2	5.71	22	62.86
35.00	<	40.00	4	11.43	26	74.29
40.00	<	45.00	3	8.57	29	82.86
45.00	<	50.00	4	11.43	33	94.29
50.00	<	55.00	1	2.86	34	97.14
55.00	<	60.00	0	.00	34	97.14
60.00	<	65.00	0	.00	34	97.14
65.00	<	70.00	1	2.86	35	100.00
		TOTAL	35	100.00		

=====CLASS LIMITS====			FREQUENCY	.....
.00	<	5.00	3	|==========
5.00	<	10.00	0	|
10.00	<	15.00	3	|==========
15.00	<	20.00	6	|==========
20.00	<	25.00	4	|==========
25.00	<	30.00	4	|==========
30.00	<	35.00	2	|=======
35.00	<	40.00	4	|==========
40.00	<	45.00	3	|==========
45.00	<	50.00	4	|==========
50.00	<	55.00	1	|====
55.00	<	60.00	0	|
60.00	<	65.00	0	|
65.00	<	70.00	1	|====

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG132 LABEL: pap
NUMBER OF CASES: 59 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg132

a

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	(	10.00	27	45.76	27	45.76
10.00	(	20.00	5	8.47	32	54.24
20.00	(	30.00	5	8.47	37	62.71
30.00	(	40.00	5	8.47	42	71.19
40.00	(	50.00	7	11.86	49	83.05
50.00	(	60.00	4	6.78	53	89.83
60.00	(	70.00	2	3.39	55	93.22
70.00	(	80.00	0	.00	55	93.22
80.00	(	90.00	1	1.69	56	94.92
90.00	(	100.00	0	.00	56	94.92
100.00	(	110.00	0	.00	56	94.92
110.00	(	120.00	0	.00	56	94.92
120.00	(	130.00	0	.00	56	94.92
130.00	(	140.00	1	1.69	57	96.61
140.00	(	150.00	0	.00	57	96.61
150.00	(	160.00	2	3.39	59	100.00
		TOTAL	59	100.00		

=====CLASS LIMITS====			FREQUENCY	.....
.00	(	10.00	27	|==========
10.00	(	20.00	5	|=====
20.00	(	30.00	5	|=====
30.00	(	40.00	5	|=====
40.00	(	50.00	7	|=======
50.00	(	60.00	4	|====
60.00	(	70.00	2	|==
70.00	(	80.00	0	|
80.00	(	90.00	1	|=
90.00	(	100.00	0	|
100.00	(	110.00	0	|
110.00	(	120.00	0	|
120.00	(	130.00	0	|
130.00	(	140.00	1	|=
140.00	(	150.00	0	|
150.00	(	160.00	2	|==

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG138 LABEL: pap
NUMBER OF CASES: 19 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg138

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	5.00	0	.00	0	.00
5.00	<	10.00	3	15.79	3	15.79
10.00	<	15.00	1	5.26	4	21.05
15.00	<	20.00	0	.00	4	21.05
20.00	<	25.00	1	5.26	5	26.32
25.00	<	30.00	2	10.53	7	36.84
30.00	<	35.00	1	5.26	8	42.11
35.00	<	40.00	4	21.05	12	63.16
40.00	<	45.00	3	15.79	15	78.95
45.00	<	50.00	1	5.26	16	84.21
50.00	<	55.00	2	10.53	18	94.74
55.00	<	60.00	0	.00	18	94.74
60.00	<	65.00	1	5.26	19	100.00
		TOTAL	19	100.00		

=====CLASS LIMITS====			FREQUENCY	.....
.00	<	5.00	0	|
5.00	<	10.00	3	|==========
10.00	<	15.00	1	|=======
15.00	<	20.00	0	|
20.00	<	25.00	1	|=======
25.00	<	30.00	2	|==============
30.00	<	35.00	1	|=======
35.00	<	40.00	4	|============================
40.00	<	45.00	3	|==========
45.00	<	50.00	1	|=======
50.00	<	55.00	2	|==============
55.00	<	60.00	0	|
60.00	<	65.00	1	|=======

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG140 LABEL: pap
NUMBER OF CASES: 23 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg140

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=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	5.00	0	.00	0	.00
5.00	<	10.00	0	.00	0	.00
10.00	<	15.00	3	13.04	3	13.04
15.00	<	20.00	2	8.70	5	21.74
20.00	<	25.00	1	4.35	6	26.09
25.00	<	30.00	5	21.74	11	47.83
30.00	<	35.00	9	39.13	20	86.96
35.00	<	40.00	2	8.70	22	95.65
40.00	<	45.00	0	.00	22	95.65
45.00	<	50.00	0	.00	22	95.65
50.00	<	55.00	1	4.35	23	100.00
		TOTAL	23	100.00		

=====CLASS LIMITS====			FREQUENCY	.....
.00	<	5.00	0	|
5.00	<	10.00	0	|
10.00	<	15.00	3	|=========
15.00	<	20.00	2	|======
20.00	<	25.00	1	|===
25.00	<	30.00	5	|================
30.00	<	35.00	9	|============================
35.00	<	40.00	2	|======
40.00	<	45.00	0	|
45.00	<	50.00	0	|
50.00	<	55.00	1	|===

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG143 LABEL: pap
NUMBER OF CASES: 26 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg143

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	(	5.00	1	3.85	1	3.85
5.00	(	10.00	2	7.69	3	11.54
10.00	(	15.00	3	11.54	6	23.08
15.00	(	20.00	1	3.85	7	26.92
20.00	(	25.00	2	7.69	9	34.62
25.00	(	30.00	5	19.23	14	53.85
30.00	(	35.00	4	15.38	18	69.23
35.00	(	40.00	5	19.23	23	88.46
40.00	(	45.00	2	7.69	25	96.15
45.00	(	50.00	0	.00	25	96.15
50.00	(	55.00	0	.00	25	96.15
55.00	(	60.00	0	.00	25	96.15
60.00	(	65.00	1	3.85	26	100.00
		TOTAL	26	100.00		

=====CLASS LIMITS====			FREQUENCY	.....
.00	(	5.00	1	|=====
5.00	(	10.00	2	|==========
10.00	(	15.00	3	|===============
15.00	(	20.00	1	|=====
20.00	(	25.00	2	|==========
25.00	(	30.00	5	|==========================
30.00	(	35.00	4	|====================
35.00	(	40.00	5	|==========================
40.00	(	45.00	2	|==========
45.00	(	50.00	0	|
50.00	(	55.00	0	|
55.00	(	60.00	0	|
60.00	(	65.00	1	|=====

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG278 LABEL: pap
NUMBER OF CASES: 21 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg278

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	5.00	1	4.76	1	4.76
5.00	<	10.00	7	33.33	8	38.10
10.00	<	15.00	4	19.05	12	57.14
15.00	<	20.00	3	14.29	15	71.43
20.00	<	25.00	4	19.05	19	90.48
25.00	<	30.00	1	4.76	20	95.24
30.00	<	35.00	1	4.76	21	100.00
		TOTAL	21	100.00		

=====CLASS LIMITS====			FREQUENCY	.....
.00	<	5.00	1	I====
5.00	<	10.00	7	I==========
10.00	<	15.00	4	I==========
15.00	<	20.00	3	I==========
20.00	<	25.00	4	I==========
25.00	<	30.00	1	I====
30.00	<	35.00	1	I====

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG294 LABEL: pap
NUMBER OF CASES: 34 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg294

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=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	5.00	1	2.94	1	2.94
5.00	<	10.00	1	2.94	2	5.88
10.00	<	15.00	9	26.47	11	32.35
15.00	<	20.00	8	23.53	19	55.88
20.00	<	25.00	8	23.53	27	79.41
25.00	<	30.00	7	20.59	34	100.00
		TOTAL	34	100.00		

=====CLASS LIMITS====			FREQUENCY	
.00	<	5.00	1	|===
5.00	<	10.00	1	|===
10.00	<	15.00	9	|==========
15.00	<	20.00	8	|=========
20.00	<	25.00	8	|=========
25.00	<	30.00	7	|========

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG295 LABEL: pap
NUMBER OF CASES: 21 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg295

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	5.00	0	.00	0	.00
5.00	<	10.00	0	.00	0	.00
10.00	<	15.00	4	19.05	4	19.05
15.00	<	20.00	0	.00	4	19.05
20.00	<	25.00	3	14.29	7	33.33
25.00	<	30.00	1	4.76	8	38.10
30.00	<	35.00	3	14.29	11	52.38
35.00	<	40.00	5	23.81	16	76.19
40.00	<	45.00	0	.00	16	76.19
45.00	<	50.00	1	4.76	17	80.95
50.00	<	55.00	2	9.52	19	90.48
55.00	<	60.00	0	.00	19	90.48
60.00	<	65.00	0	.00	19	90.48
65.00	<	70.00	1	4.76	20	95.24
70.00	<	75.00	1	4.76	21	100.00
		TOTAL	21	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00	<	5.00	0 |
5.00	<	10.00	0 |
10.00	<	15.00	4 |==========
15.00	<	20.00	0 |
20.00	<	25.00	3 |========
25.00	<	30.00	1 |===
30.00	<	35.00	3 |========
35.00	<	40.00	5 |==============
40.00	<	45.00	0 |
45.00	<	50.00	1 |===
50.00	<	55.00	2 |======
55.00	<	60.00	0 |
60.00	<	65.00	0 |
65.00	<	70.00	1 |===
70.00	<	75.00	1 |===

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG390 LABEL: pap
NUMBER OF CASES: 13 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg330

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	5.00	0	.00	0	.00
5.00	<	10.00	3	23.08	3	23.08
10.00	<	15.00	7	53.85	10	76.92
15.00	<	20.00	0	.00	10	76.92
20.00	<	25.00	0	.00	10	76.92
25.00	<	30.00	2	15.38	12	92.31
30.00	<	35.00	1	7.69	13	100.00
		TOTAL	13	100.00		

=====CLASS LIMITS====			FREQUENCY	
.00	<	5.00	0	|
5.00	<	10.00	3	|==========
10.00	<	15.00	7	|==========
15.00	<	20.00	0	|
20.00	<	25.00	0	|
25.00	<	30.00	2	|========
30.00	<	35.00	1	|====

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:DRG391 LABEL: pap
NUMBER OF CASES: 244 NUMBER OF VARIABLES: 1

VARIABLE: 1. drg391

a

====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	5.00	0	.00	0	.00
5.00	<	10.00	117	47.95	117	47.95
10.00	<	15.00	52	21.31	169	69.26
15.00	<	20.00	9	3.69	178	72.95
20.00	<	25.00	8	3.28	186	76.23
25.00	<	30.00	26	10.66	212	86.89
30.00	<	35.00	30	12.30	242	99.18
35.00	<	40.00	2	.82	244	100.00
		TOTAL	244	100.00		

=====CLASS LIMITS====			FREQUENCY	.....
.00	<	5.00	0	|
5.00	<	10.00	117	|==========
10.00	<	15.00	52	|==========
15.00	<	20.00	9	|==
20.00	<	25.00	8	|=
25.00	<	30.00	26	|======
30.00	<	35.00	30	|=======
35.00	<	40.00	2	|

APPENDIX F

DESCRIPTIVE STATISTICS OF PATIENT ACUITY POINTS PER DRG

VARIABLE NAME: drg17 N = 59

ARITHMETIC MEAN = 9.3559322033903

SAMPLE STD. DEV. = 7.5218365142469
SAMPLE VARIANCE = 56.578024547057
COEFFICIENT OF VARIATION = 80.396441003722%

POPULATION STD. DEV. = 7.4578197201638
POPULATION VARIANCE = 55.619074978463
COEFFICIENT OF VARIATION = 79.712203530732%

STANDARD ERROR OF THE MEAN = .9792597043656

MINIMUM = 4
MAXIMUM = 32

SUM = 552.00000000003
SUM OF SQUARES = 8446.000000001
DEVIATION SS = 3281.5254237293

1ST MOMENT = 0
2ND MOMENT = 55.619074978463
3RD MOMENT = 669.97182769396
MOMENT COEFFICIENT OF SKEWNESS = 1.6151798891223
4TH MOMENT = 13495.593990308
MOMENT COEFFICIENT OF KURTOSIS = 4.3625908168318

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 9.3559322033903 AND STD. DEV. 7.5218365142469 CAN BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 66.695, D.F. = 5, P =-4.486E-07

VARIABLE NAME: drg88 N = 38

ARITHMETIC MEAN = 23.63157894737

SAMPLE STD. DEV. = 23.222101602676
SAMPLE VARIANCE = 539.266002845
COEFFICIENT OF VARIATION = 98.267245089268%

POPULATION STD. DEV. = 22.914510517221
POPULATION VARIANCE = 525.07479224382
COEFFICIENT OF VARIATION = 96.965634705383%

STANDARD ERROR OF THE MEAN = 3.767122323629

MINIMUM = 4
MAXIMUM = 101

SUM = 898.00000000006
SUM OF SQUARES = 41174.000000005
DEVIATION SS = 19952.842105265

1ST MOMENT = 0
2ND MOMENT = 525.07479224382
3RD MOMENT = 26017.34319871
MOMENT COEFFICIENT OF SKEWNESS = 2.1623758979348
4TH MOMENT = 1976588.9167362
MOMENT COEFFICIENT OF KURTOSIS = 7.1692548271908

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 23.63157894737 AND STD. DEV. 23.222101602676 CAN BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 39.895, D.F. = 5, P =-2.918E-07

VARIABLE NAME: drg89 N = 25

ARITHMETIC MEAN = 59.84

SAMPLE STD. DEV. = 64.682352049587
SAMPLE VARIANCE = 4183.8066666667
COEFFICIENT OF VARIATION = 108.09216585827%

POPULATION STD. DEV. = 63.375503153821
POPULATION VARIANCE = 4016.4544
COEFFICIENT OF VARIATION = 105.90826061802%

STANDARD ERROR OF THE MEAN = 12.936470409917

MINIMUM = 10
MAXIMUM = 187

SUM = 1496
SUM OF SQUARES = 189932
DEVIATION SS = 100411.36

1ST MOMENT = 0
2ND MOMENT = 4016.4544
3RD MOMENT = 276075.662208
MOMENT COEFFICIENT OF SKEWNESS = 1.0845856688065
4TH MOMENT = 38325909.255762
MOMENT COEFFICIENT OF KURTOSIS = 2.3757830835994

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 59.84 AND
STD. DEV. 64.682352049587 CAN BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 46.360, D.F. = 5, P =-4.410E-07

VARIABLE NAME: drg121 N = 44

ARITHMETIC MEAN = 47.681818181822

SAMPLE STD. DEV. = 33.475275657391
SAMPLE VARIANCE = 1120.5940803383
OEFFICIENT OF VARIATION = 70.205535220452%

POPULATION STD. DEV. = 33.092688513596
POPULATION VARIANCE = 1095.1260330579
OEFFICIENT OF VARIATION = 69.403159895048%

NDARD ERROR OF THE MEAN = 5.0465876867856

MINIMUM = 6
MAXIMUM = 125

SUM = 2098.0000000002
SUM OF SQUARES = 148222.00000002
DEVIATION SS = 48185.545454547

1ST MOMENT = 0
ND MOMENT = 1095.1260330579
RD MOMENT = 22579.60706232
MOMENT COEFFICIENT OF SKEWNESS = .623046162432B5
TH MOMENT = 2576017.1321015
OMENT COEFFICIENT OF KURTOSIS = 2.1479320632231

AL DISTRIBUTION GOODNESS OF FIT TEST:

E HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 47.681818181822 AND
DEV. 33.475275657391 CAN BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 24.727, D.F. = 5, P = 1.568E-04

VARIABLE NAME: drg122 N = 58

ARITHMETIC MEAN = 37.55172413793

SAMPLE STD. DEV. = 25.408364704861
SAMPLE VARIANCE = 645.58499697521
COEFFICIENT OF VARIATION = 67.662311886225%

POPULATION STD. DEV. = 25.188374722584
POPULATION VARIANCE = 634.45422116529
COEFFICIENT OF VARIATION = 67.076479977498%

STANDARD ERROR OF THE MEAN = 3.3362817341942

MINIMUM = 6
MAXIMUM = 103

SUM = 2177.9999999999
SUM OF SQUARES = 118585.99999999
DEVIATION SS = 36798.344827587

1ST MOMENT = 0
2ND MOMENT = 634.45422116529
3RD MOMENT = 10615.183689372
MOMENT COEFFICIENT OF SKEWNESS = .66424313859604
4TH MOMENT = 1010365.4951993
MOMENT COEFFICIENT OF KURTOSIS = 2.5100240880861

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 37.55172413793 AND STD. DEV. 25.408364704861 CAN BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 15.931, D.F. = 5, P = 7.043E-03

VARIABLE NAME: drg124 N = 63

ARITHMETIC MEAN = 20.190476190474

SAMPLE STD. DEV. = 16.148361689456
SAMPLE VARIANCE = 260.76958525347
COEFFICIENT OF VARIATION = 79.980093873259%

POPULATION STD. DEV. = 16.01968743414
POPULATION VARIANCE = 256.63038548754
COEFFICIENT OF VARIATION = 79.342791537023%

STANDARD ERROR OF THE MEAN = 2.0345023386392

MINIMUM = 4
MAXIMUM = 71

SUM = 1271.9999999999
SUM OF SQUARES = 41849.999999997
DEVIATION SS = 16167.714285715

1ST MOMENT = 0
2ND MOMENT = 256.63038548754
3RD MOMENT = 5279.4423928334
MOMENT COEFFICIENT OF SKEWNESS = 1.2841801154862
4TH MOMENT = 274907.51079036
MOMENT COEFFICIENT OF KURTOSIS = 4.1741730790655

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 20.190476190474 AND STD. DEV. 16.148361689456 CAN BE REJECTED AT THE 95% CONFIDENCE LEVEL

HI SQUARE = 44.302, D.F. = 5, P =-4.285E-07

VARIABLE NAME: drg125 N = 35

ARITHMETIC MEAN = 28.485714285714

SAMPLE STD. DEV. = 15.347679319826
SAMPLE VARIANCE = 235.5512605042
COEFFICIENT OF VARIATION = 53.878513158868%

POPULATION STD. DEV. = 15.126837887999
POPULATION VARIANCE = 228.82122448979
COEFFICIENT OF VARIATION = 53.103242335002%

STANDARD ERROR OF THE MEAN = 2.594231295472

MINIMUM = 4
MAXIMUM = 67

SUM = 996.99999999999
SUM OF SQUARES = 36409
DEVIATION SS = 8008.7428571428

1ST MOMENT = 0
2ND MOMENT = 228.82122448979
3RD MOMENT = 1243.0601982506
MOMENT COEFFICIENT OF SKEWNESS = .35912670672959
4TH MOMENT = 133646.81432203
MOMENT COEFFICIENT OF KURTOSIS = 2.5525014679137

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 28.485714285714 AND STD. DEV. 15.347679319826 CANNOT BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 5.457, D.F. = 5, P = .3627

VARIABLE NAME: drg132 N = 59

ARITHMETIC MEAN = 28.406779661018

SAMPLE STD. DEV. = 34.274308586838
SAMPLE VARIANCE = 1174.7282291058
COEFFICIENT OF VARIATION = 120.65538225676%

POPULATION STD. DEV. = 33.982607038819
POPULATION VARIANCE = 1154.8175811548
COEFFICIENT OF VARIATION = 119.62850926553%

TANDARD ERROR OF THE MEAN = 4.4621349095411

MINIMUM = 6
MAXIMUM = 159

SUM = 1676.0000000001
SUM OF SQUARES = 115744.00000001
DEVIATION SS = 68134.237288136

1ST MOMENT = 0
2ND MOMENT = 1154.8175811548
3RD MOMENT = 91440.562082772
MOMENT COEFFICIENT OF SKEWNESS = 2.330069131548
4TH MOMENT = 11529048.60198
MOMENT COEFFICIENT OF KURTOSIS = 8.6450338065371

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

HE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 28.406779661018 AND
TD. DEV. 34.274308586838 CAN BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 100.593, D.F. = 5, P =-4.486E-07

VARIABLE NAME: drg138 N = 19

ARITHMETIC MEAN = 33.473684210526

SAMPLE STD. DEV. = 16.774214408009
SAMPLE VARIANCE = 281.37426900586
COEFFICIENT OF VARIATION = 50.11164681638%

POPULATION STD. DEV. = 16.326821397716
POPULATION VARIANCE = 266.56509695292
COEFFICIENT OF VARIATION = 48.775095370536%

STANDARD ERROR OF THE MEAN = 3.8482687085155

MINIMUM = 6
MAXIMUM = 64

SUM = 635.99999999999
SUM OF SQUARES = 26353.999999999
DEVIATION SS = 5064.7368421054

1ST MOMENT = 0
2ND MOMENT = 266.56509695292
3RD MOMENT = -1307.1784741216
MOMENT COEFFICIENT OF SKEWNESS = -.30035022959 21
4TH MOMENT = 181911.98436473
MOMENT COEFFICIENT OF KURTOSIS = 2.2786228128728

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 33.473684210526 AND STD. DEV. 16.774214408009 CANNOT BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 7.526, D.F. = 5, P = .1843

VARIABLE NAME: drg140 N = 23

ARITHMETIC MEAN = 28.217391304348

SAMPLE STD. DEV. = 8.974491739162
SAMPLE VARIANCE = 80.541501976286
COEFFICIENT OF VARIATION = 31.804824345258%

POPULATION STD. DEV. = 8.7772260733409
POPULATION VARIANCE = 77.039697542535
COEFFICIENT OF VARIATION = 31.105731846971%

STANDARD ERROR OF THE MEAN = 1.8713108864514

MINIMUM = 11
MAXIMUM = 52

SUM = 649
SUM OF SQUARES = 20085
DEVIATION SS = 1771.9130434783

1ST MOMENT = 0
2ND MOMENT = 77.039697542535
3RD MOMENT = 49.355140955l4
MOMENT COEFFICIENT OF SKEWNESS = 7.2989525936948E-02
4TH MOMENT = 22918.235347931
MOMENT COEFFICIENT OF KURTOSIS = 3.8614644127023

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 28.217391304348 AND STD. DEV. 8.974491739162 CAN BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 12.130, D.F. = 5, P = .0330

VARIABLE NAME: drg143 N = 26

ARITHMETIC MEAN = 26.884615384616

SAMPLE STD. DEV. = 13.685983846482
SAMPLE VARIANCE = 187.30615384616
COEFFICIENT OF VARIATION = 50.906377683623%

POPULATION STD. DEV. = 13.420211287679
POPULATION VARIANCE = 180.10207100593
COEFFICIENT OF VARIATION = 49.917810225987%

STANDARD ERROR OF THE MEAN = 2.6840422575357

MINIMUM = 4
MAXIMUM = 64

SUM = 699.00000000002
SUM OF SQUARES = 23475.000000001
DEVIATION SS = 4680.5530769231

1ST MOMENT = 0
2ND MOMENT = 180.10207100593
3RD MOMENT = 689.69271409
MOMENT COEFFICIENT OF SKEWNESS = .28534897628879
4TH MOMENT = 112442.66253156
MOMENT COEFFICIENT OF KURTOSIS = 3.4665199750161

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 26.884615384616 AND STD. DEV. 13.685983846482 CANNOT BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 5.851, D.F. = 5, P = .3044

VARIABLE NAME: drg278 N = 21

ARITHMETIC MEAN = 14.380952380953

SAMPLE STD. DEV. = 7.6123333510574
SAMPLE VARIANCE = 57.94761904762
COEFFICIENT OF VARIATION = 52.933443831854%

POPULATION STD. DEV. = 7.4288766726054
POPULATION VARIANCE = 55.188208616781
COEFFICIENT OF VARIATION = 51.657751696923%

STANDARD ERROR OF THE MEAN = 1.6611473236408

MINIMUM = 4
MAXIMUM = 31

SUM = 302.00000000001
SUM OF SQUARES = 5502.0000000003
DEVIATION SS = 1158.9523809524

1ST MOMENT = 0
2ND MOMENT = 55.188208616781
3RD MOMENT = 233.5391426411
MOMENT COEFFICIENT OF SKEWNESS = .50962656602677
4TH MOMENT = 6861.10234933
MOMENT COEFFICIENT OF KURTOSIS = 2.2526893367365

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 14.380952380953 AND STD. DEV. 7.6123333510574 CANNOT BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 9.857, D.F. = 5. P = .0794

VARIABLE NAME: drg294 N = 34

ARITHMETIC MEAN = 18.382352941177

SAMPLE STD. DEV. = 6.1841180056678
SAMPLE VARIANCE = 38.243315508024
COEFFICIENT OF VARIATION = 33.641601950832%

POPULATION STD. DEV. = 6.0924963775721
POPULATION VARIANCE = 37.118512110729
COEFFICIENT OF VARIATION = 33.143180293991%

STANDARD ERROR OF THE MEAN = 1.0605674883263

MINIMUM = 4
MAXIMUM = 29

SUM = 625.00000000062
SUM OF SQUARES = 12751.000000001
DEVIATION SS = 1262.0294117648

1ST MOMENT = 0
2ND MOMENT = 37.118512110729
3RD MOMENT = -53.897720333832
MOMENT COEFFICIENT OF SKEWNESS = -.23833320744034
4TH MOMENT = 3300.9985220785
MOMENT COEFFICIENT OF KURTOSIS = 2.3958753060582

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 18.382352941177 AND STD. DEV. 6.1841180056678 CAN BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 12.118, D.F. = 5, P = .032

VARIABLE NAME: drg294 N = 34

ARITHMETIC MEAN = 18.382352941177

SAMPLE STD. DEV. = 6.1841180056678
SAMPLE VARIANCE = 38.243315508024
COEFFICIENT OF VARIATION = 33.641601950832%

POPULATION STD. DEV. = 6.0924963775721
POPULATION VARIANCE = 37.118512110729
COEFFICIENT OF VARIATION = 33.143180293991%

STANDARD ERROR OF THE MEAN = 1.0605674883263

MINIMUM = 4
MAXIMUM = 29

SUM = 625.00000000002
SUM OF SQUARES = 12751.000000001
DEVIATION SS = 1262.0294117648

1ST MOMENT = 0
2ND MOMENT = 37.118512110729
3RD MOMENT = -53.897720333832
MOMENT COEFFICIENT OF SKEWNESS = -.23833320744034
4TH MOMENT = 3300.9985220785
MOMENT COEFFICIENT OF KURTOSIS = 2.3958753060582

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 18.382352941177 AND STD. DEV. 6.1841180056678 CAN BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 12.118, D.F. = 5, P = .0332

VARIABLE NAME: drg295 N = 21

ARITHMETIC MEAN = 34.095238095238

SAMPLE STD. DEV. = 16.732915950022
SAMPLE VARIANCE = 279.99047619048
COEFFICIENT OF VARIATION = 49.076988121573%

POPULATION STD. DEV. = 16.329653896268
POPULATION VARIANCE = 266.65759637188
COEFFICIENT OF VARIATION = 47.894236287937%

STANDARD ERROR OF THE MEAN = 3.6514216161099

MINIMUM = 10
MAXIMUM = 74

SUM = 716
SUM OF SQUARES = 30012
DEVIATION SS = 5599.8095238095

1ST MOMENT = 0
2ND MOMENT = 266.65759637188
3RD MOMENT = 2994.192203866
MOMENT COEFFICIENT OF SKEWNESS = .68762037218224
4TH MOMENT = 217690.93852879
MOMENT COEFFICIENT OF KURTOSIS = 3.0614870839467

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 34.095238095238 AND STD. DEV. 16.732915950022 CANNOT BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 6.048, D.F. = 5, P = .3016

VARIABLE NAME: drg390 N = 13

ARITHMETIC MEAN = 14.384615384615

SAMPLE STD. DEV. = 8.6365353927223
SAMPLE VARIANCE = 74.589743589744
COEFFICIENT OF VARIATION = 60.040085617857%

POPULATION STD. DEV. = 8.2977148062535
POPULATION VARIANCE = 68.852071005918
COEFFICIENT OF VARIATION = 57.684648385721%

STANDARD ERROR OF THE MEAN = 2.3953439385246

MINIMUM = 8
MAXIMUM = 30

SUM = 187
SUM OF SQUARES = 3584.9999999999
DEVIATION SS = 895.07692307693

1ST MOMENT = 0
2ND MOMENT = 68.852071005918
3RD MOMENT = 681.03686845698
MOMENT COEFFICIENT OF SKEWNESS = 1.192051755029
4TH MOMENT = 12111.194706069
MOMENT COEFFICIENT OF KURTOSIS = 2.5547768385382

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 14.384615384615 AND STD. DEV. 8.6365353927223 CAN BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 20.846, D.F. = 5, P = 8.657E-04

VARIABLE NAME: drg391 N = 244

ARITHMETIC MEAN = 14.614754098361

SAMPLE STD. DEV. = 9.0298514735722
SAMPLE VARIANCE = 81.538217634774
COEFFICIENT OF VARIATION = 61.785859774301%

POPULATION STD. DEV. = 9.0113286818138
POPULATION VARIANCE = 81.20404461168
COEFFICIENT OF VARIATION = 61.659119415662%

STANDARD ERROR OF THE MEAN = .5780770044668

MINIMUM = 6
MAXIMUM = 37

SUM = 3566.0000000001
SUM OF SQUARES = 71930.000000007
DEVIATION SS = 19813.78688525

1ST MOMENT = 0
2ND MOMENT = 81.20404461168
3RD MOMENT = 729.05529317398
MOMENT COEFFICIENT OF SKEWNESS = .996308821693
4TH MOMENT = 15407.809456437
MOMENT COEFFICIENT OF KURTOSIS = 2.3366064800888

NORMAL DISTRIBUTION GOODNESS OF FIT TEST:

THE HYPOTHESIS THAT THE POPULATION IS NORMAL OF MEAN 14.614754098361 AND STD. DEV. 9.0298514735722 CANNOT BE REJECTED AT THE 95% CONFIDENCE LEVEL

CHI SQUARE = 346.885, D.F. = 5, P =1.0000

APPENDIX G

DRG RELATIVE WEIGHTS (CASE COMPLEXITY INDEX)

LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
1	1	SURG	CRANIOTOMY AGE >17 EXCEPT FOR TRAUMA	3.3548	19.4	39
2	1	SURG	CRANIOTOMY FOR TRAUMA AGE >17	3.2829	15.8	36
3	1	SURG	* CRANIOTOMY AGE <18	2.9489	12.7	33
4	1	SURG	SPINAL PROCEDURES	2.2452	16.0	36
5	1	SURG	EXTRACRANIAL VASCULAR PROCEDURES	1.6780	9.8	30
6	1	SURG	CARPAL TUNNEL RELEASE	.3993	2.6	8
7	1	SURG	PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC AGE >69 &/OR C.C.	1.0279	5.3	25
8	1	SURG	PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC AGE <70 W/O C.C.	.7229	4.1	23
9	1	MED	SPINAL DISORDERS & INJURIES	1.3958	9.1	29
10	1	MED	NERVOUS SYSTEM NEOPLASMS AGE >69 AND/OR C.C.	1.3087	9.6	30
*11	1	MED	NERVOUS SYSTEM NEOPLASMS AGE <70 W/O C.C.	1.2545	8.5	29
12	1	MED	DEGENERATIVE NERVOUS SYSTEM DISORDERS	1.1136	9.4	29
13	1	MED	MULTIPLE SCLEROSIS & CEREBELLAR ATAXIA	1.0150	8.9	29
14	1	MED	SPECIFIC CEREBROVASCULAR DISORDERS EXCEPT TIA	1.3527	9.9	30
15	1	MED	TRANSIENT ISCHEMIC ATTACKS	.6673	5.6	24
16	1	MED	NONSPECIFIC CEREBROVASCULAR DISORDERS WITH C.C.	.8592	7.4	27
17	1	MED	NONSPECIFIC CEREBROVASCULAR DISORDERS W/O C.C.	.8392	7.2	27
18	1	MED	CRANIAL & PERIPHERAL NERVE DISORDERS AGE >69 AND/OR C.C.	.7915	6.6	27
19	1	MED	CRANIAL & PERIPHERAL NERVE DISORDERS AGE <70 W/O C.C.	.6975	5.7	26
20	1	MED	NERVOUS SYSTEM INFECTION EXCEPT VIRAL MENINGITIS	1.3141	7.6	28
21	1	MED	* VIRAL MENINGITIS	.6301	4.5	15
22	1	MED	HYPERTENSIVE ENCEPHALOPATHY	.7869	6.4	26
23	1	MED	NONTRAUMATIC STUPOR & COMA	1.1568	5.9	26
24	1	MED	SEIZURE & HEADACHE AGE >69 AND/OR C.C.	.7279	5.6	26
25	1	MED	SEIZURE & HEADACHE AGE 18-69 W/O C.C.	.6392	4.9	25
26	1	MED	* SEIZURE & HEADACHE AGE 0-17	.4349	3.3	13
27	1	MED	* TRAUMATIC STUPOR & COMA, COMA >1 HR	1.1368	4.1	24
28	1	MED	TRAUMATIC STUPOR & COMA, COMA <1 HR AGE >69 AND/OR C.C.	1.0701	5.9	26
29	1	MED	* TRAUMATIC STUPOR & COMA <1 HR AGE 18-69 W/O C.C.	.7175	3.8	24
30	1	MED	* TRAUMATIC STUPOR & COMA <1 HR AGE 0-17	.3576	2.0	8
31	1	MED	CONCUSSION AGE >69 AND/OR C.C.	.6051	4.6	25
32	1	MED	CONCUSSION AGE 18-69 W/O C.C.	.4519	3.3	19
33	1	MED	* CONCUSSION AGE 0-17	.2483	1.6	5
34	1	MED	* OTHER DISORDERS OF NERVOUS SYSTEM AGE >69 AND/OR C.C.	.9927	7.1	27
35	1	MED	OTHER DISORDERS OF NERVOUS SYSTEM AGE <70 W/O C.C.	.8460	6.2	26
36	2	SURG	RETINAL PROCEDURES	.7093	5.0	15
37	2	SURG	ORBITAL PROCEDURES	.5630	3.4	11
38	2	SURG	PRIMARY IRIS PROCEDURES	.4325	3.0	9
39	2	SURG	LENS PROCEDURES	.5010	2.8	6
40	2	SURG	EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE >17	.3977	2.4	7
41	2	SURG	* EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE 0-17	.3695	1.6	4
42	2	SURG	INTRAOCULAR PROCEDURES EXCEPT RETINA, IRIS & LENS	.5906	3.8	12
43	2	MED	* HYPHEMA	.3828	4.2	12
44	2	MED	ACUTE MAJOR EYE INFECTIONS	.6298	6.5	22
45	2	MED	NEUROLOGICAL EYE DISORDERS	.5641	4.3	18

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*** DRGS 469 AND 470 CONTAIN CASES WHICH COULD NOT BE ASSIGNED TO VALID DRGS.

LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY (UTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
47	2	MED	OTHER DISORDERS OF THE EYE AGE >17 WITH C.C.	.5964	4.1	23
47	2	MED	OTHER DISORDERS OF THE EYE AGE >17 W/O C.C.	.5064	3.0	12
48	2	MED	* OTHER DISORDERS OF THE EYE AGE 0-17	.4060	2.9	13
49	3	SURG	MAJOR HEAD & NECK PROCEDURES	2.5270	13.6	34
50	3	SURG	SIALOADENECTOMY	.7160	4.6	14
51	3	SURG	SALIVARY GLAND PROCEDURES EXCEPT SIALOADENECTOMY	.6702	4.2	15
52	3	SURG	* CLEFT LIP & PALATE REPAIR	.6488	3.8	11
53	3	SURG	SINUS & MASTOID PROCEDURES AGE >17	.5895	3.5	11
54	3	SURG	* SINUS & MASTOID PROCEDURES AGE 0-17	.6961	3.2	11
55	3	SURG	MISCELLANEOUS EAR, NOSE & THROAT PROCEDURES	.4153	2.5	7
56	3	SURG	RHINOPLASTY	.4144	2.8	8
57	3	SURG	* T&A PROC EXCEPT TONSILLECTOMY &/OR ADENOIDECTOMY AGE >17	.5251	2.7	9
58	3	SURG	* T&A PROC EXCEPT TONSILLECTOMY &/OR ADENOIDECTOMY AGE 0-17	.3130	1.5	3
59	3	SURG	* TONSILLECTOMY AND/OR ADENOIDECTOMY ONLY AGE >17	.3147	2.0	4
60	3	SURG	* TONSILLECTOMY AND/OR ADENOIDECTOMY ONLY AGE 0-17	.2643	1.5	3
61	3	SURG	* MYRINGOTOMY AGE >17	.4273	2.1	9
62	3	SURG	* MYRINGOTOMY AGE 0-17	.3121	1.3	3
63	3	SURG	OTHER EAR, NOSE & THROAT O.R. PROCEDURES	1.1090	5.8	26
64	3	MED	EAR, NOSE & THROAT MALIGNANCY	1.0812	5.7	26
65	3	MED	DYSEQUILIBRIUM	.4857	4.6	17
66	3	MED	EPISTAXIS	.4116	3.7	15
67	3	MED	* EPIGLOTTITIS	.6762	4.3	17
68	3	MED	OTITIS MEDIA & URI AGE >69 AND/OR C.C.	.6289	6.0	22
69	3	MED	OTITIS MEDIA & URI AGE 18-69 W/O C.C.	.5417	4.8	19
70	3	MED	* OTITIS MEDIA & URI AGE 0-17	.3697	3.1	10
71	3	MED	* LARYNGOTRACHEITIS	.3589	2.9	9
72	3	MED	NASAL TRAUMA & DEFORMITY	.4857	3.8	18
73	3	MED	OTHER EAR, NOSE & THROAT DIAGNOSES AGE >17	.5217	3.5	17
74	3	MED	* OTHER EAR, NOSE & THROAT DIAGNOSES AGE 0-17	.3463	2.1	9
75	4	SURG	MAJOR CHEST PROCEDURES	2.6044	14.4	34
76	4	SURG	O.R. PROC ON THE RESP SYSTEM EXCEPT MAJOR CHEST WITH C.C.	1.8734	10.6	31
77	4	SURG	O.R. PROC ON THE RESP SYSTEM EXCEPT MAJOR CHEST W/O C.C.	1.8178	9.5	30
78	4	MED	PULMONARY EMBOLISM	1.4095	10.4	30
79	4	MED	RESPIRATORY INFECTIONS & INFLAMMATIONS AGE >69 AND/OR C.C.	1.7982	11.2	31
80	4	MED	RESPIRATORY INFECTIONS & INFLAMMATIONS AGE 18-69 W/O C.C.	1.7445	10.9	31
81	4	MED	* RESPIRATORY INFECTIONS & INFLAMMATIONS AGE 0-17	.8743	6.1	26
82	4	MED	RESPIRATORY NEOPLASMS	1.1400	7.4	27
83	4	MED	MAJOR CHEST TRAUMA AGE >69 AND/OR C.C.	.9809	8.1	28
84	4	MED	* MAJOR CHEST TRAUMA AGE <70 W/O C.C.	.7738	5.3	22
85	4	MED	PLEURAL EFFUSION AGE >69 AND/OR C.C.	1.1461	8.4	28
86	4	MED	PLEURAL EFFUSION AGE <70 W/O C.C.	1.1217	7.6	28
87	4	MED	PULMONARY EDEMA & RESPIRATORY FAILURE	1.5529	7.7	28
88	4	MED	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	1.0412	7.5	28
89	4	MED	SIMPLE PNEUMONIA & PLEURISY AGE >69 AND/OR C.C.	1.1029	8.5	29
90	4	MED	SIMPLE PNEUMONIA & PLEURISY AGE 18-69 W/O C.C.	.9849	7.6	28

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LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
91	4	MED	* SIMPLE PNEUMONIA & PLEURISY AGE 0-17	.5131	4.6	14
92	4	MED	INTERSTITIAL LUNG DISEASE AGE >69 AND/OR C.C.	1.0370	7.8	28
93	4	MED	INTERSTITIAL LUNG DISEASE AGE <70 W/O C.C.	.9724	6.9	27
94	4	MED	PNEUMOTHORAX AGE >69 AND/OR C.C.	1.4374	9.2	29
95	4	MED	PNEUMOTHORAX AGE <70 W/O C.C.	1.1252	7.7	28
96	4	MED	BRONCHITIS & ASTHMA AGE >69 AND/OR C.C.	.7996	6.9	24
97	4	MED	BRONCHITIS & ASTHMA AGE 18-69 W/O C.C.	.7256	6.2	21
98	4	MED	* BRONCHITIS & ASTHMA AGE 0-17	.4275	3.7	11
99	4	MED	RESPIRATORY SIGNS & SYMPTOMS AGE >69 AND/OR C.C.	.8035	5.5	26
100	4	MED	RESPIRATORY SIGNS & SYMPTOMS AGE <70 W/O C.C.	.7730	5.1	24
101	4	MED	OTHER RESPIRATORY DIAGNOSES AGE >69 AND/OR C.C.	.9035	6.8	27
102	4	MED	OTHER RESPIRATORY DIAGNOSES AGE <70	.9024	6.1	26
103	5	SURG	* HEART TRANSPLANT	.0000	.0	0
104	5	SURG	** CARDIAC VALVE PROCEDURE WITH PUMP & WITH CARDIAC CATH	6.8527	20.9	41
105	5	SURG	** CARDIAC VALVE PROCEDURE WITH PUMP & W/O CARDIAC CATH	5.2308	16.2	36
106	5	SURG	** CORONARY BYPASS WITH CARDIAC CATH	5.2624	20.4	40
107	5	SURG	** CORONARY BYPASS W/O CARDIAC CATH	3.9891	13.5	34
108	5	SURG	CARDIOTHOR PROC.EXCEPT VALVE & CORONARY BYPASS.WITH PUMP	4.3756	13.3	33
109	5	SURG	CARDIOTHORACIC PROCEDURES W/O PUMP	3.6963	12.1	32
110	5	SURG	MAJOR RECONSTRUCTIVE VASCULAR PROCEDURES AGE >69 AND/OR C.C.	2.9328	14.3	34
111	5	SURG	MAJOR RECONSTRUCTIVE VASCULAR PROCEDURES AGE <70 W/O C.C.	2.5851	13.2	33
112	5	SURG	VASCULAR PROCEDURES EXCEPT MAJOR RECONSTRUCTION	2.3500	11.2	31
113	5	SURG	AMPUTATION FOR CIRC SYSTEM DISORDERS EXCEPT UPPER LIMB & TOE	2.6800	21.6	42
114	5	SURG	UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS	2.1967	16.6	37
115	5	SURG	PERMANENT CARDIAC PACEMAKER IMPLANT WITH AMI OR CHF	3.9150	15.8	36
116	5	SURG	PERMANENT CARDIAC PACEMAKER IMPLANT W/O AMI OR CHF	2.8665	9.3	29
117	5	SURG	CARDIAC PACEMAKER REPLACE & REVIS EXC PULSE GEN REPL ONLY	1.8210	6.4	26
118	5	SURG	CARDIAC PACEMAKER PULSE GENERATOR REPLACEMENT ONLY	1.7809	4.2	18
119	5	SURG	VEIN LIGATION & STRIPPING	1.0610	7.2	27
120	5	SURG	OTHER O.R. PROCEDURES ON THE CIRCULATORY SYSTEM	2.5204	15.0	35
121	5	MED	** CIRCULATORY DISORDERS WITH AMI & C.V. COMP. DISCH. ALIVE	1.8648	11.9	32
122	5	MED	** CIRCULATORY DISORDERS WITH AMI W/O C.V. COMP. DISCH. ALIVE	1.3651	9.8	30
123	5	MED	CIRCULATORY DISORDERS WITH AMI, EXPIRED	1.1360	3.1	23
124	5	MED	CIRCULATORY DISORDERS EXC AMI,WITH CARD CATH & COMPLEX DIAG	2.2200	8.4	28
125	5	MED	CIRCULATORY DISORDERS EXC AMI,WITH CARD CATH W/O COMPLEX DIAG	1.6455	5.0	25
126	5	MED	ACUTE & SUBACUTE ENDOCARDITIS	2.6645	18.4	38
127	5	MED	HEART FAILURE & SHOCK	1.0408	7.8	28
128	5	MED	DEEP VEIN THROMBOPHLEBITIS	.8639	9.6	28
129	5	MED	CARDIAC ARREST	1.5506	4.6	25
130	5	MED	PERIPHERAL VASCULAR DISORDERS AGE >69 AND/OR C.C.	.9645	7.1	27
131	5	MED	PERIPHERAL VASCULAR DISORDERS AGE <70 W/O C.C.	.9491	6.4	26
132	5	MED	ATHEROSCLEROSIS AGE >69 AND/OR C.C.	.9182	6.7	27
133	5	MED	ATHEROSCLEROSIS AGE <70 W/O C.C.	.8599	5.2	25
134	5	MED	HYPERTENSION	.7049	6.1	26
135	5	MED	CARDIAC CONGENITAL & VALVULAR DISORDERS AGE >69 AND/OR C.C.	.9922	6.1	26

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DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
136	5	MED	CARDIAC CONGENITAL + VALVULAR DISORDERS AGE 18-69 W/O C.C.	.9674	4.9	25
137	5	MED	• CARDIAC CONGENITAL + VALVULAR DISORDERS AGE 0-17	.6381	3.3	20
138	5	MED	CARDIAC ARRHYTHMIA + CONDUCTION DISORDERS AGE >69 AND/OR C.C.	.9297	5.7	26
139	5	MED	CARDIAC ARRHYTHMIA + CONDUCTION DISORDERS AGE <70 W/O C.C.	.8303	4.8	23
140	5	MED	ANGINA PECTORIS	.7548	5.5	21
141	5	MED	SYNCOPE + COLLAPSE AGE >69 AND/OR C.C.	.6475	5.0	21
142	5	MED	SYNCOPE + COLLAPSE AGE <70 W/O C.C.	.5680	4.3	18
143	5	MED	CHEST PAIN	.6814	4.4	19
144	5	MED	OTHER CIRCULATORY DIAGNOSES WITH C.C.	1.1267	7.0	27
145	5	MED	OTHER CIRCULATORY DIAGNOSES W/O C.C.	1.0020	6.4	26
146	6	SURG	RECTAL RESECTION AGE >69 AND/OR C.C.	2.7082	19.1	39
147	6	SURG	RECTAL RESECTION AGE <70 W/O C.C.	2.5087	17.9	38
148	6	SURG	MAJOR SMALL + LARGE BOWEL PROCEDURES AGE >69 AND/OR C.C.	2.5493	17.0	37
149	6	SURG	MAJOR SMALL + LARGE BOWEL PROCEDURES AGE <70 W/O C.C.	2.2154	15.2	35
150	6	SURG	PERITONEAL ADHESIOLYSIS AGE >69 AND/OR C.C.	2.3746	15.3	35
151	6	SURG	PERITONEAL ADHESIOLYSIS AGE <70 W/O C.C.	2.0274	13.4	33
152	6	SURG	MINOR SMALL + LARGE BOWEL PROCEDURES AGE >69 AND/OR C.C.	1.4851	10.6	31
153	6	SURG	MINOR SMALL + LARGE BOWEL PROCEDURES AGE <70 W/O C.C.	1.2599	9.3	29
154	6	SURG	STOMACH, ESOPHAGEAL + DUODENAL PROCEDURES AGE >69 AND/OR C.C.	2.6901	14.8	35
155	6	SURG	STOMACH, ESOPHAGEAL + DUODENAL PROCEDURES AGE 18-69 W/O C.C.	2.3336	13.0	33
156	6	SURG	• STOMACH, ESOPHAGEAL + DUODENAL PROCEDURES AGE 0-17	.8470	6.0	20
157	6	SURG	ANAL PROCEDURES AGE >69 AND/OR C.C.	.7985	6.0	25
158	6	SURG	ANAL PROCEDURES AGE <70 W/O C.C.	.6408	5.2	19
159	6	SURG	HERNIA PROCEDURES EXCEPT INGUINAL + FEMORAL AGE >69 AND/OR C.C.	.9297	7.1	23
160	6	SURG	HERNIA PROCEDURES EXCEPT INGUINAL + FEMORAL AGE 18-69 W/O C.C.	.7676	6.0	18
161	6	SURG	INGUINAL + FEMORAL HERNIA PROCEDURES AGE >69 AND/OR C.C.	.7068	5.7	16
162	6	SURG	INGUINAL + FEMORAL HERNIA PROCEDURES AGE 18-69 W/O C.C.	.5854	4.8	12
163	6	SURG	• HERNIA PROCEDURES AGE 0-17	.4358	2.1	6
164	6	SURG	APPENDECTOMY WITH COMPLICATED PRINC. DIAG AGE>69 AND/OR C.C.	1.8320	11.9	32
165	6	SURG	APPENDECTOMY WITH COMPLICATED PRINC. DIAG AGE <70 W/O C.C.	1.6154	11.3	29
166	6	SURG	APPENDECTOMY W/O COMPLICATED PRINC. DIAG AGE >69 AND/OR C.C.	1.1328	9.4	29
167	6	SURG	APPENDECTOMY W/O COMPLICATED PRINC. DIAG AGE <70 W/O C.C.	1.0818	7.4	22
168	6	SURG	PROCEDURES ON THE MOUTH AGE >69 AND/OR C.C.	.8631	4.3	24
169	6	SURG	PROCEDURES ON THE MOUTH AGE <70 W/O C.C.	.8992	4.2	24
170	6	SURG	OTHER DIGESTIVE SYSTEM PROCEDURES AGE >69 AND/OR C.C.	2.6602	14.6	35
171	6	SURG	OTHER DIGESTIVE SYSTEM PROCEDURES AGE <70 W/O C.C.	2.3976	13.3	33
172	6	MED	DIGESTIVE MALIGNANCY AGE >69 AND/OR C.C.	1.2268	8.2	28
173	6	MED	DIGESTIVE MALIGNANCY AGE <70 W/O C.C.	1.0517	6.7	27
174	6	MED	G.I. HEMORRHAGE AGE >69 AND/OR C.C.	.9281	6.7	27
175	6	MED	G.I. HEMORRHAGE AGE <70 W/O C.C.	.8236	5.8	24
176	6	MED	COMPLICATED PEPTIC ULCER	1.2438	8.1	28
177	6	MED	UNCOMPLICATED PEPTIC ULCER >69 AND/OR C.C.	.7422	6.6	24
178	6	MED	UNCOMPLICATED PEPTIC ULCER <70 W/O C.C.	.6141	5.5	20
179	6	MED	INFLAMMATORY BOWEL DISEASE	1.0153	8.0	28
180	6	MED	G.I. OBSTRUCTION AGE >69 AND/OR C.C.	.8197	6.2	26

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DRG	PDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
181	6	MED	G.I. OBSTRUCTION AGE <70 W/O C.C.	.7845	5.9	26
182	6	MED	ESOPHAGITIS,GASTROENT.* MISC. DIGEST. DIS AGE >69 +/OR C.C.	.6185	5.4	22
183	6	MED	ESOPHAGITIS,GASTROENT.* MISC. DIGEST. DIS AGE 18-69 W/O C.C.	.5652	4.8	19
184	6	MED	* ESOPHAGITIS, GASTROENTERITIS * MISC. DIGEST. DISORDERS AGE 0-17	.3822	3.3	11
185	6	MED	DENTAL * ORAL DIS. EXC EXTRACTIONS * RESTORATIONS,AGE >17	.6681	4.2	24
186	6	MED	* DENTAL * ORAL DIS. EXC EXTRACTIONS * RESTORATIONS,AGE 0-17	.4155	2.9	11
187	6	MED	DENTAL EXTRACTIONS * RESTORATIONS	.3990	2.7	8
188	6	MED	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE >69 AND/OR C.C.	.7444	5.1	25
189	6	MED	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE 18-69 W/O C.C.	.6576	4.5	23
190	6	MED	* OTHER DIGESTIVE SYSTEM DIAGNOSES AGE 0-17	.3379	2.1	8
191	7	SURG	MAJOR PANCREAS, LIVER * SHUNT PROCEDURES	4.1791	20.8	41
192	7	SURG	* MINOR PANCREAS, LIVER * SHUNT PROCEDURES	2.9197	20.1	40
193	7	SURG	BILIARY TRACT PROC EXC TOT CHOLECYSTECTOMY AGE >69 +/OR C.C.	2.4513	17.3	37
194	7	SURG	BILIARY TRACT PROC EXC TOT CHOLECYSTECTOMY AGE <70 W/O C.C.	1.9881	13.9	34
195	7	SURG	** TOTAL CHOLECYSTECTOMY WITH C.D.E. AGE >69 AND/OR C.C.	2.1690	16.8	36
196	7	SURG	** TOTAL CHOLECYSTECTOMY WITH C.D.E. AGE <70 W/O C.C.	2.0594	15.8	36
197	7	SURG	** TOTAL CHOLECYSTECTOMY W/O C.D.E. AGE >69 AND/OR C.C.	1.4868	1[illegible]	25
198	7	SURG	** TOTAL CHOLECYSTECTOMY W/O C.D.E. AGE <70 W/O C.C.	1.2752	10.1	24
199	7	SURG	HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR MALIGNANCY	2.4574	17.9	38
200	7	SURG	HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR NON-MALIGNANCY	2.5818	15.1	35
201	7	SURG	OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES	2.7291	16.9	37
202	7	MED	CIRRHOSIS * ALCOHOLIC HEPATITIS	1.1965	9.3	29
203	7	MED	MALIGNANCY OF HEPATOBILIARY SYSTEM OR PANCREAS	1.0937	8.0	28
204	7	MED	DISORDERS OF PANCREAS EXCEPT MALIGNANCY	.9682	7.5	28
205	7	MED	DISORDERS OF LIVER EXC MALIG,CIRR,ALC HEPA AGE >69 AND/OR C.C.	1.0822	7.9	28
206	7	MED	DISORDERS OF LIVER EXC MALIG,CIRR,ALC HEPA AGE <70 W/O C.C.	.9247	6.8	27
207	7	MED	DISORDERS OF THE BILIARY TRACT AGE >69 AND/OR C.C.	.8492	6.6	27
208	7	MED	DISORDERS OF THE BILIARY TRACT AGE <70 W/O C.C.	.7315	5.5	24
209	8	SURG	MAJOR JOINT PROCEDURES	2.2912	17.1	37
210	8	SURG	HIP * FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE >69 AND/OR C.C.	2.0833	17.8	38
211	8	SURG	HIP * FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE 18-69 W/O C.C.	1.9530	15.9	36
212	8	SURG	* HIP * FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE 0-17	1.7132	13.1	31
213	8	SURG	AMPUTATIONS FOR MUSCULOSKELETAL SYSTEM * CONN. TISSUE DISORDERS	2.1315	14.3	34
214	8	SURG	BACK * NECK PROCEDURES AGE >69 AND/OR C.C.	1.8427	15.6	36
215	8	SURG	BACK * NECK PROCEDURES AGE <70 W/O C.C.	1.4920	13.8	33
216	8	SURG	BIOPSIES OF MUSCULOSKELETAL SYSTEM * CONNECTIVE TISSUE	1.5596	11.3	31
217	8	SURG	WND DEBRIDE * SKN GRFT EXC HAND,FOR MUSCSKELETAL * CONN.TISS. DIS	2.2824	15.1	33
218	8	SURG	LOWER EXTREM * HUMER PROC EXC HIP,FOOT,FEMUR AGE >69 +/OR C.C.	1.4250	10.9	31
219	8	SURG	LOWER EXTREM * HUMER PROC EXC HIP,FOOT,FEMUR AGE 18-69 W/O C.C.	1.0750	9.3	27
220	8	SURG	* LOWER EXTREM * HUMER PROC EXC HIP,FOOT,FEMUR AGE 0-17	.9339	5.3	25
221	8	SURG	KNEE PROCEDURES AGE >69 AND/OR C.C.	1.2727	8.3	28
222	8	SURG	KNEE PROCEDURES AGE <70 W/O C.C.	.9897	6.4	26
223	8	SURG	UPPER EXTREMITY PROC EXC HUMERUS * HAND AGE >69 AND/OR C.C.	1.0723	6.9	27
224	8	SURG	UPPER EXTREMITY PROC EXC HUMERUS * HAND AGE <70 W/O C.C.	.8952	5.6	24
225	8	SURG	FOOT PROCEDURES	.6476	4.8	19

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*** DRGS 469 AND 470 CONTAIN CASES WHICH COULD NOT BE ASSIGNED TO VALID DRGS.

LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY (OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
226	8	SURG	SOFT TISSUE PROCEDURES AGE >69 AND/OR C.C.	.7984	5.1	25
227	8	SURG	SOFT TISSUE PROCEDURES AGE <70 W/O C.C.	.6337	4.2	18
228	8	SURG	GANGLION (HAND) PROCEDURES	.3626	2.2	7
229	8	SURG	HAND PROCEDURES EXCEPT GANGLION	.5998	3.4	14
230	8	SURG	LOCAL EXCISION + REMOVAL OF INT FIX DEVICES OF HIP + FEMUR	1.3594	8.9	29
231	8	SURG	LOCAL EXCISION + REMOVAL OF INT FIX DEVICES EXCEPT HIP + FEMUR	.9519	5.3	25
232	8	SURG	ARTHROSCOPY	.6063	3.6	15
233	8	SURG	OTHER MUSCULOSKELET SYS + CONN TISS O.R. PROC AGE >69 +/OR C.C.	1.7737	13.1	33
234	8	SURG	OTHER MUSCULOSKELET SYS + CONN TISS O.R. PROC AGE <70 W/O C.C.	1.2454	8.2	28
235	8	MED	FRACTURES OF FEMUR	1.7386	13.6	34
236	8	MED	FRACTURES OF HIP + PELVIS	1.3855	11.9	32
237	8	MED	SPRAINS, STRAINS, + DISLOCATIONS OF HIP, PELVIS + THIGH	.7929	6.4	26
238	8	MED	OSTEOMYELITIS	1.5911	12.3	32
239	8	MED	PATHOLOGICAL FRACTURES + MUSCULOSKELETAL + CONN.TISS.MALIGNANCY	1.0979	9.2	29
240	8	MED	CONNECTIVE TISSUE DISORDERS AGE >69 AND/OR C.C.	.9709	8.6	29
241	8	MED	CONNECTIVE TISSUE DISORDERS AGE <70 W/O C.C.	.9048	9.0	28
242	8	MED	SEPTIC ARTHRITIS	1.5883	11.2	31
243	8	MED	MEDICAL BACK PROBLEMS	.7551	7.5	28
244	8	MED	BONE DISEASES + SEPTIC ARTHROPATHY AGE >69 AND/OR C.C.	.7792	7.5	28
245	8	MED	BONE DISEASES + SEPTIC ARTHROPATHY AGE <70 W/O C.C.	.7177	6.3	26
246	8	MED	NON-SPECIFIC ARTHROPATHIES	.7147	6.8	27
247	8	MED	SIGNS + SYMPTOMS OF MUSCULOSKELETAL SYSTEM + CONN TISSUE	.6559	5.8	26
248	8	MED	TENDONITIS, MYOSITIS + BURSITIS	.6136	5.4	24
249	8	MED	AFTERCARE, MUSCULOSKELETAL SYSTEM + CONNECTIVE TISSUE	1.0203	7.6	28
250	8	MED	FX,SPRNS,STRNS + DISL OF FOREARM,HAND,FOOT AGE >69 +/OR C.C.	.7928	6.0	26
251	8	MED	FX,SPRNS,STRNS + DISL OF FOREARM,HAND,FOOT AGE 18-69 W/O C.C.	.5964	4.2	24
252	8	MED	FX,SPRNS,STRNS + DISL OF FOREARM,HAND,FOOT AGE 0-17	.3533	1.8	7
253	8	MED	FX,SPRNS,STRNS + DISL OF UPARM,LOWLEG EX FOOT AGE >69 +/OR C.C.	.7466	6.6	27
254	8	MED	FX,SPRNS,STRNS + DISL OF UPARM,LOWLEG EX FOOT AGE 18-69 W/O C.C.	.6258	5.3	25
255	8	MED	FX,SPRNS,STRNS + DISL OF UPARM,LOWLEG EX FOOT AGE 0-17	.4687	2.9	15
256	8	MED	OTHER DIAGNOSES OF MUSCULOSKELETAL SYSTEM + CONNECTIVE TISSUE	.8706	6.5	27
257	9	SURG	TOTAL MASTECTOMY FOR MALIGNANCY AGE >69 AND/OR C.C.	1.1005	9.3	23
258	9	SURG	TOTAL MASTECTOMY FOR MALIGNANCY AGE <70 W/O C.C.	1.0720	8.9	21
259	9	SURG	SUBTOTAL MASTECTOMY FOR MALIGNANCY AGE >69 AND/OR C.C.	1.0141	7.4	27
260	9	SURG	SUBTOTAL MASTECTOMY FOR MALIGNANCY AGE <70	.9325	6.4	26
261	9	SURG	BREAST PROC FOR NON-MALIG EXCEPT BIOPSY + LOC EXC	.7329	4.8	19
262	9	SURG	BREAST BIOPSY + LOCAL EXCISION FOR NON-MALIGNANCY	.4617	3.0	11
263	9	SURG	SKIN GRAFTS FOR SKIN ULCER OR CELLULITIS AGE >69 AND/OR C.C.	2.4737	21.3	41
264	9	SURG	SKIN GRAFTS FOR SKIN ULCER OR CELLULITIS AGE <70 W/O C.C.	2.2031	18.2	38
265	9	SURG	SKIN GRAFTS EXCEPT FOR SKIN ULCER OR CELLULITIS WITH C.C.	1.4959	8.6	29
266	9	SURG	SKIN GRAFTS EXCEPT FOR SKIN ULCER OR CELLULITIS W/O C.C.	.9485	5.9	26
267	9	SURG	PERIANAL + PILONIDAL PROCEDURES	.6113	5.0	18
268	9	SURG	SKIN,SUBCUTANEOUS TISSUE + BREAST PLASTIC PROCEDURES	.5388	3.0	15
269	9	SURG	OTHER SKIN, SUBCUT TISS + BREAST O.R. PROC AGE >69 +/OR C.C.	1.9947	5.7	26
270	9	SURG	OTHER SKIN, SUBCUT TISS + BREAST O.R. PROC AGE <70 W/O C.C.	.8123	4.5	25

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LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
271	9	MED	SKIN ULCERS	1.3302	12.1	32
272	9	MED	MAJOR SKIN DISORDERS AGE >69 AND/OR C.C.	.8628	7.8	28
273	9	MED	MAJOR SKIN DISORDERS AGE <70 W/O C.C.	.8246	7.3	27
274	9	MED	MALIGNANT BREAST DISORDERS AGE >69 AND/OR C.C.	1.0108	7.5	28
275	9	MED	MALIGNANT BREAST DISORDERS AGE <70 W/O C.C.	.9014	6.4	26
276	9	MED	NON-MALIGANT BREAST DISORDERS	.6066	4.2	22
277	9	MED	CELLULITIS AGE >69 AND/OR C.C.	.8865	8.3	29
278	9	MED	CELLLLITIS AGE 18-69 W/O C.C.	.8096	7.2	27
279	9	MED	• CELLULITIS AGE 0-17	.4789	4.2	13
280	9	MED	TRAUMA TO THE SKIN, SUBCUT TISS + BREAST AGE >69 +/OR C.C.	.6201	5.4	25
281	9	MED	TRAUMA TO THE SKIN, SUBCUT TISS + BREAST AGE 18-69 W/O C.C.	.5377	4.2	23
282	9	MED	• TRAUMA TO THE SKIN, SUBCUT TISS + BREAST AGE 0-17	.3460	2.2	9
283	9	MED	MINOR SKIN DISORDERS AGE >69 AND/OR C.C.	.6394	5.3	25
284	9	MED	MINOR SKIN DISORDERS AGE <70 W/O C.C.	.5971	4.4	24
285	10	SURG	AMPUTATIONS FOR ENDOCRINE,NUTRITIONAL + METABOLIC DISORDERS	2.8658	24.8	44
286	10	SURG	• ADRENAL + PITUITARY PROCEDURES	2.8952	16.1	36
287	10	SURG	SKIN GRAFTS + WOUND DEBRIDE FOR ENDOC,NUTRIT + METAB DISORDERS	2.8143	22.8	43
288	10	SURG	• O.R. PROCEDURES FOR OBESITY	1.5695	10.8	24
289	10	SURG	PARATHYROID PROCEDURES	1.3736	8.3	28
290	10	SURG	THYROID PROCEDURES	.8549	6.0	17
291	10	SURG	• THYROGLOSSAL PROCEDURES	.4909	2.9	8
292	10	SURG	OTHER ENDOCRINE, NUTRIT + METAB O.R. PROC AGE > 69 +/OR C.C.	2.0307	10.8	31
293	10	SURG	• OTHER ENDOCRINE, NUTRIT + METAB O.R. PROC AGE <70 W/O C.C.	1.4951	8.0	28
294	10	MED	DIABETES AGE >=36	.8087	7.7	28
295	10	MED	DIABETES AGE 0-35	.7457	5.6	26
296	10	MED	NUTRITIONAL + MISC. METABOLIC DISORDERS AGE >69 AND/OR C.C.	.8979	7.3	27
297	10	MED	NUTRITIONAL + MISC. METABOLIC DISORDERS AGE 18-69 W/O C.C.	.7923	6.0	26
298	10	MED	• NUTRITIONAL + MISC. METABOLIC DISORDERS AGE 0-17	.7538	5.4	25
299	10	MED	INBORN ERRORS OF METABOLISM	.9407	6.8	27
300	10	MED	ENDOCRINE DISORDERS AGE >69 AND/OR C.C.	.9731	7.8	28
301	10	MED	ENDOCRINE DISORDERS AGE <70 W/O C.C.	.8143	6.4	26
302	11	SURG	KIDNEY TRANSPLANT	6.6322	24.1	44
303	11	SURG	KIDNEY,URETER + MAJOR BLADDER PROCEDURE FOR NEOPLASM	2.5397	16.2	36
304	11	SURG	KIDNEY,URETER + MAJ BLDR PROC FOR NON-MALIG AGE >69 +/OR C.C.	1.7952	12.8	33
305	11	SURG	KIDNEY,URETER + MAJ BLDR PROC FOR NON-MALIG AGE <70 W/O C.C.	1.7043	11.9	32
306	11	SURG	PROSTATECTOMY AGE >69 AND/OR C.C.	1.1399	8.6	29
307	11	SURG	PROSTATECTOMY AGE <70 W/O C.C.	.9513	7.2	26
308	11	SURG	MINOR BLADDER PROCEDURES AGE >69 AND/OR C.C.	1.0441	7.1	27
309	11	SURG	MINOR BLADDER PROCEDURES AGE <70 W/O C.C.	.9290	5.7	26
310	11	SURG	TRANSURETHRAL PROCEDURES AGE >69 AND/OR C.C.	.7071	4.9	20
311	11	SURG	TRANSURETHRAL PROCEDURES AGE <70 W/O C.C.	.5871	4.1	15
312	11	SURG	URETHRAL PROCEDURES, AGE >69 AND/OR C.C.	.7424	5.2	22
313	11	SURG	URETHRAL PROCEDURES, AGE 18-69 W/O C.C.	.6897	5.1	21
314	11	SURG	• URETHRAL PROCEDURES, AGE 0-17	.4368	2.3	11
315	11	SURG	OTHER KIDNEY + URINARY TRACT O.R. PROCEDURES	2.4888	9.8	30

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DRG	POC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
316	11	MED	RENAL FAILURE W/O DIALYSIS	1.3314	6.7	27
317	11	MED	* RENAL FAILURE WITH DIALYSIS	.2385	1.2	3
318	11	MED	KIDNEY + URINARY TRACT NEOPLASMS AGE >69 AND/OR C.C.	.9142	5.5	26
319	11	MED	KIDNEY + URINARY TRACT NEOPLASMS AGE <70 W/O C.C.	.7942	4.2	24
320	11	MED	KIDNEY + URINARY TRACT INFECTIONS AGE >69 AND/OR C.C.	.8123	7.0	27
321	11	MED	KIDNEY + URINARY TRACT INFECTIONS AGE 18-69 W/O C.C.	.5803	5.6	23
322	11	MED	* KIDNEY + URINARY TRACT INFECTIONS AGE 0-17	.4553	3.7	13
323	11	MED	URINARY STONES AGE >69 AND/OR C.C.	.7131	4.9	25
324	11	MED	URINARY STONES AGE <70 W/O C.C.	.5472	3.9	19
325	11	MED	KIDNEY + URINARY TRACT SIGNS + SYMPTOMS AGE >69 AND/OR C.C.	.7247	5.4	25
326	11	MED	KIDNEY + URINARY TRACT SIGNS + SYMPTOMS AGE 18-69 W/O C.C.	.5875	4.3	21
327	11	MED	* KIDNEY + URINARY TRACT SIGNS + SYMPTOMS AGE 0-17	.5027	3.1	14
328	11	MED	URETHRAL STRICTURE AGE >69 AND/OR C.C.	.6508	4.8	22
329	11	MED	URETHRAL STRICTURE AGE 18-69 W/O C.C.	.5326	3.9	17
330	11	MED	* URETHRAL STRICTURE AGE 0-17	.2817	1.6	5
331	11	MED	OTHER KIDNEY + URINARY TRACT DIAGNOSES AGE >69 AND/OR C.C.	.8919	6.3	26
332	11	MED	OTHER KIDNEY + URINARY TRACT DIAGNOSES AGE 18-69 W/O C.C.	.7763	5.6	25
333	11	MED	* OTHER KIDNEY + URINARY TRACT DIAGNOSES AGE 0-17	.5146	3.2	18
334	12	SURG	MAJOR MALE PELVIC PROCEDURES WITH C.C.	1.5612	12.7	30
335	12	SURG	MAJOR MALE PELVIC PROCEDURES W/O C.C.	1.3590	11.8	29
336	12	SURG	TRANSURETHRAL PROSTATECTOMY AGE >69 AND/OR C.C.	1.0079	8.8	22
337	12	SURG	TRANSURETHRAL PROSTATECTOMY AGE <70 W/O C.C.	.8491	7.2	17
338	12	SURG	TESTES PROCEDURES, FOR MALIGNANCY	.9069	6.3	26
339	12	SURG	TESTES PROCEDURES, NON-MALIGNANT AGE >17	.6093	4.5	15
340	12	SURG	* TESTES PROCEDURES, NON-MALIGNANT AGE 0-17	.4381	2.4	7
341	12	SURG	PENIS PROCEDURES	.9983	6.0	23
342	12	SURG	CIRCUMCISION AGE >17	.4228	2.8	10
343	12	SURG	* CIRCUMCISION AGE 0-17	.3828	1.7	4
344	12	SURG	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROCEDURES FOR MALIGNANCY	1.1204	7.4	27
345	12	SURG	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXCEPT FOR MALIG	.8334	5.6	26
346	12	MED	MALIGNANCY, MALE REPRODUCTIVE SYSTEM, AGE >69 AND/OR C.C.	.9395	6.9	27
347	12	MED	MALIGNANCY, MALE REPRODUCTIVE SYSTEM, AGE <70 W/O C.C.	.8304	5.7	26
348	12	MED	BENIGN PROSTATIC HYPERTROPHY AGE >69 AND/OR C.C.	.8864	6.2	26
349	12	MED	BENIGN PROSTATIC HYPERTROPHY AGE <70 W/O C.C.	.6998	4.9	22
350	12	MED	INFLAMMATION OF THE MALE REPRODUCTIVE SYSTEM	.6096	5.2	20
351	12	MED	* STERILIZATION, MALE	.2655	1.3	3
352	12	MED	OTHER MALE REPRODUCTIVE SYSTEM DIAGNOSES	.6385	4.4	20
353	13	SURG	PELVIC EVISCERATION, RADICAL HYSTERECTOMY + VULVECTOMY	1.9376	12.4	32
354	13	SURG	NON-RADICAL HYSTERECTOMY AGE >69 AND/OR C.C.	1.1108	9.6	20
355	13	SURG	NON-RADICAL HYSTERECTOMY AGE <70 W/O C.C.	1.0156	8.8	17
356	13	SURG	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES	.8460	8.1	18
357	13	SURG	UTERUS + ADNEXA PROCEDURES, FOR MALIGNANCY	1.9188	13.9	34
358	13	SURG	UTERUS + ADNEXA PROC FOR NON-MALIGNANCY EXCEPT TUBAL INTERRUPT	1.0890	8.8	22
359	13	SURG	* TUBAL INTERRUPTION FOR NON-MALIGNANCY	.4279	2.3	7
360	13	SURG	VAGINA, CERVIX + VULVA PROCEDURES	.5985	4.2	19

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DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
361	13	SURG	• LAPAROSCOPY • ENDOSCOPY (FEMALE) EXCEPT TUBAL INTERRUPTION	.4864	2.6	10
362	13	SURG	• LAPAROSCOPIC TUBAL INTERRUPTION	.3126	1.4	2
363	13	SURG	D•C•CONIZATION • RADIO-IMPLANT• FOR MALIGNANCY	.6516	4.3	18
364	13	SURG	D•C•CONIZATION EXCEPT FOR MALIGNANCY	.4028	2.6	9
365	13	SURG	OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES	1.7965	12.7	33
366	13	MED	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM AGE >69 AND/OR C.C.	.8444	5.2	25
367	13	MED	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM AGE <70 W/O C.C.	.5786	3.5	24
368	13	MED	INFECTIONS, FEMALE REPRODUCTIVE SYSTEM	.7944	6.7	27
369	13	MED	MENSTRUAL • OTHER FEMALE REPRODUCTIVE SYSTEM DISORDERS	.6959	5.1	25
370	14	SURG	• CESAREAN SECTION WITH C.C.•	.9912	7.6	15
371	14	SURG	• CESAREAN SECTION W/O C.C.	.7535	6.1	10
372	14	MED	• VAGINAL DELIVERY WITH COMPLICATING DIAGNOSES	.5534	3.8	9
373	14	MED	VAGINAL DELIVERY W/O COMPLICATING DIAGNOSES	.4063	3.2	9
374	14	SURG	• VAGINAL DELIVERY WITH STERILIZATION AND/OR D•C	.5492	3.6	7
375	14	SURG	• VAGINAL DELIVERY WITH O.R. PROC EXCEPT STERIL AND/OR D•C	.6889	4.4	15
376	14	MED	• POSTPARTUM DIAGNOSES W/O O.R. PROCEDURE	.4158	2.9	10
377	14	SURG	• POSTPARTUM DIAGNOSES WITH O.R. PROCEDURE	.4761	2.2	8
378	14	MED	• ECTOPIC PREGNANCY	.8094	5.5	11
379	14	MED	• THREATENED ABORTION	.3169	2.2	8
380	14	MED	• ABORTION W/O D•C	.2705	1.5	4
381	14	MED	• ABORTION WITH D•C	.3602	1.4	4
382	14	MED	• FALSE LABOR	.1842	1.2	2
383	14	MED	• OTHER ANTEPARTUM DIAGNOSES WITH MEDICAL COMPLICATIONS	.4317	3.4	14
384	14	MED	• OTHER ANTEPARTUM DIAGNOSES W/O MEDICAL COMPLICATIONS	.3245	2.2	9
385	15		• NEONATES, DIED OR TRANSFERRED	.6883	1.8	14
386	15		• EXTREME IMMATURITY, NEONATE	3.6863	17.9	38
387	15		•• PREMATURITY WITH MAJOR PROBLEMS	1.8459	13.3	33
388	15	MED	PREMATURITY W/O MAJOR PROBLEMS	1.1693	8.6	29
389	15		FULL TERM NEONATE WITH MAJOR PROBLEMS	.5482	4.7	16
390	15		• NEONATES WITH OTHER SIGNIFICANT PROBLEMS	.3523	3.4	9
391	15		• NORMAL NEWBORNS	.2241	3.1	7
392	16	SURG	SPLENECTOMY AGE >17	2.7746	16.4	36
393	16	SURG	• SPLENECTOMY AGE 0-17	1.5366	9.1	29
394	16	SURG	OTHER O.R. PROCEDURES OF THE BLOOD • BLOOD FORMING ORGANS	1.1146	6.1	26
395	16	MED	RED BLOOD CELL DISORDERS AGE >17	.7839	6.1	26
396	16	MED	• RED BLOOD CELL DISORDERS AGE 0-17	.6295	4.1	18
397	16	MED	COAGULATION DISORDERS	.9863	6.7	27
398	16	MED	RETICULOENDOTHELIAL • IMMUNITY DISORDERS AGE >69 AND/OR C.C.	.8900	6.1	26
399	16	MED	RETICULOENDOTHELIAL • IMMUNITY DISORDERS AGE <70 W/O C.C.	.8459	5.6	26
400	17	SURG	LYMPHOMA OR LEUKEMIA WITH MAJOR O.R. PROCEDURE	2.8272	16.9	37
401	17	SURG	LYMPHOMA OR LEUKEMIA WITH MINOR O.R. PROC AGE >69 AND/OR C.C.	1.2409	8.9	29
402	17	SURG	• LYMPHOMA OR LEUKEMIA WITH MINOR O.R. PROCEDURE AGE <70 W/O C.C.	1.1316	7.1	27
403	17	MED	LYMPHOMA OR LEUKEMIA AGE >69 AND/OR C.C.	1.1715	7.1	27
404	17	MED	LYMPHOMA OR LEUKEMIA AGE 18-69 W/O C.C.	1.1787	6.4	26
405	17	MED	• LYMPHOMA OR LEUKEMIA AGE 0-17	1.0517	4.9	25

• MEDPAR DATA HAVE BEEN SUPPLEMENTED BY DATA FROM MARYLAND AND MICHIGAN FOR LOW VOLUME DRGS.
•• DRG CATEGORIES COMBINED (IN PAIRS) IN THE CALCULATION OF THE CASE MIX INDEX.
••• DRGS 469 AND 470 CONTAIN CASES WHICH COULD NOT BE ASSIGNED TO VALID DRGS.

LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
406	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPLASM & MAJ O.R.PROC + C.C.	2.2671	15.0	35
407	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R.PROC W/O C.C.	2.1366	13.3	33
408	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPL WITH MINOR O.R.PROC	1.1389	7.1	27
409	17	MED	* RADIOTHERAPY	.8134	5.7	26
410	17	MED	CHEMOTHERAPY	.3527	2.6	12
411	17	MED	HISTORY OF MALIGNANCY W/O ENDOSCOPY	.7221	4.7	25
412	17	MED	HISTORY OF MALIGNANCY WITH ENDOSCOPY	.3400	2.0	8
413	17	MED	OTHR MYELOPROLIF DISORD OR POORLY DIFF NEOPL DX AGE>69 +/OR C.C	1.0975	7.3	27
414	17	MED	OTHR MYELOPROLIF DISORD OR POORLY DIFF NEOPL DX AGE<70 W/O C.C.	1.0359	6.4	26
415	18	SURG	O.R. PROCEDURE FOR INFECTIOUS + PARASITIC DISEASES	3.0027	15.1	35
416	18	MED	SEPTICEMIA AGE >17	1.5504	9.2	29
417	18	MED	* SEPTICEMIA AGE 0-17	.7152	5.2	20
418	18	MED	POSTOPERATIVE + POST-TRAUMATIC INFECTIONS	.9968	8.4	28
419	18	MED	FEVER OF UNKNOWN ORIGIN AGE >69 AND/OR C.C.	.8628	6.9	27
420	18	MED	FEVER OF UNKNOWN ORIGIN AGE 18-69 W/O C.C.	.8022	6.2	26
421	18	MED	VIRAL ILLNESS AGE >17	.6045	5.4	21
422	18	MED	* VIRAL ILLNESS + FEVER OF UNKNOWN ORIGIN AGE 0-17	.4360	3.2	10
423	18	MED	OTHER INFECTIOUS + PARASITIC DISEASES DIAGNOSES	1.2107	8.8	29
424	19	SURG	O.R. PROCEDURES WITH PRINCIPAL DIAGNOSIS OF MENTAL ILLNESS	2.1938	14.2	34
425	19	MED	ACUTE ADJUST REACT + DISTURBANCES OF PSYCHOSOCIAL DYSFUNCTION	.6812	5.8	26
426	19	MED	DEPRESSIVE NEUROSES	.9495	9.4	29
427	19	MED	NEUROSES EXCEPT DEPRESSIVE	.7678	6.9	27
428	19	MED	DISORDERS OF PERSONALITY + IMPULSE CONTROL	.9741	8.3	28
429	19	MED	ORGANIC DISTURBANCES + MENTAL RETARDATION	.9523	8.8	29
430	19	MED	PSYCHOSES	1.0934	10.8	31
431	19	MED	* CHILDHOOD MENTAL DISORDERS	2.2519	15.4	35
432	19	MED	* OTHER DIAGNOSES OF MENTAL DISORDERS	1.0525	7.2	27
433	20		** SUBSTANCE USE + SUBST INDUCED ORGANIC MENTAL DISORDERS, LEFT AMA	.4487	2.5	17
434	20		** DRUG DEPENDENCE	1.0404	9.1	29
435	20		** DRUG USE EXCEPT DEPENDENCE	1.0738	8.0	28
436	20		** ALCOHOL DEPENDENCE	.8653	8.1	28
437	20		** ALCOHOL USE EXCEPT DEPENDENCE	.6183	3.5	24
438	20		** ALCOHOL + SUBSTANCE INDUCED ORGANIC MENTAL SYNDROME	.8420	6.9	27
439	21	SURG	* SKIN GRAFTS FOR INJURIES	1.8218	8.9	29
440	21	SURG	* WOUND DEBRIDEMENTS FOR INJURIES	1.4867	7.2	27
441	21	SURG	* HAND PROCEDURES FOR INJURIES	.7180	3.0	16
442	21	SURG	OTHER O.R. PROCEDURES FOR INJURIES AGE >69 AND/OR C.C.	1.9026	9.7	29
443	21	SURG	OTHER O.R. PROCEDURES FOR INJURIES AGE <70 W/O C.C.	1.5211	6.6	27
444	21	MED	MULTIPLE TRAUMA AGE >69 AND/OR C.C.	.9830	6.7	27
445	21	MED	MULTIPLE TRAUMA AGE 18-69 W/O C.C.	.7530	5.2	25
446	21	MED	* MULTIPLE TRAUMA AGE 0-17	.4846	2.4	12
447	21	MED	ALLERGIC REACTIONS AGE >17	.4785	3.7	19
448	21	MED	* ALLERGIC REACTIONS AGE 0-17	.3505	2.9	5
449	21	MED	TOXIC EFFECTS OF DRUGS AGE >69 AND/OR C.C.	.7331	5.6	26
450	21	MED	TOXIC EFFECTS OF DRUGS AGE 18-69 W/O C.C.	.5957	3.9	23

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LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	PDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
451	21	MED	* TOXIC EFFECTS OF DRUGS AGE 0-17	.2912	2.1	8
452	21	MED	* COMPLICATIONS OF TREATMENT AGE >69 AND/OR C.C.	.8492	5.5	26
453	21	MED	COMPLICATIONS OF TREATMENT AGE <70 W/O C.C.	.9020	5.1	25
454	21	MED	OTHER INJURIES, POISONINGS & TOXIC EFF DIAG AGE >69 AND/OR C.C.	.8224	5.3	25
455	21	MED	* OTHER INJURIES, POISONINGS & TOXIC EFF DIAG AGE <70 W/O C.C.	.4185	3.5	22
456	22		** BURNS, TRANSFERRED TO ANOTHER ACUTE CARE FACILITY	2.0902	11.6	32
457	22		** EXTENSIVE BURNS	6.8631	12.6	33
458	22	SURG	** NON-EXTENSIVE BURNS WITH SKIN GRAFTS	2.8572	18.3	38
459	22	SURG	** NON-EXTENSIVE BURNS WITH WOUND DEBRIDEMENT & OTHER O.R. PROC	2.7568	12.7	33
460	22	MED	** NON-EXTENSIVE BURNS W/O O.R. PROCEDURE	1.4225	9.0	29
461	23	SURG	O.R. PROC WITH DIAGNOSES OF OTHER CONTACT WITH HEALTH SERVICES	1.6507	8.0	28
462	23	MED	* REHABILITATION	1.8268	13.5	34
463	23	MED	SIGNS & SYMPTOMS WITH C.C.	.7702	6.3	26
464	23	MED	SIGNS & SYMPTOMS W/O C.C.	.7322	6.0	26
465	23	MED	** AFTERCARE WITH HISTORY OF MALIGNANCY AS SECONDARY DX	.2071	1.5	4
466	23	MED	** AFTERCARE W/O HISTORY OF MALIGNANCY AS SECONDARY DX	.6377	3.7	24
467	23	MED	OTHER FACTORS INFLUENCING HEALTH STATUS	.9799	6.1	26
468			UNRELATED OR PROCEDURE	2.1037	11.2	31
469			***PDX INVALID AS DISCHARGE DIAGNOSIS	.0000	.0	0
470			***UNGROUPABLE	.0000	.0	0

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BIBLIOGRAPHY

Acceditation Manual for Hospitals, 1985. Chicago: Joint Commission on Accreditation of Hospitals, 1984.

Averill, Richard F., Mullin, Robert L. and Elia, Enis D. The Revised ICD -9-CM Diagnosis Related Groups. New Haven: DRG Support Group Ltd, Health Systems International, 1983.

Aydelotte, Myrtle K. "Nurse Staffing Methodology," Conference on Research on Nurse Staffing in Hospitals - Report of the Conference. Washington: Public Health Service, HEW Publication #73-433, 1973.

Barnan, Virginia and Schneider, William R. "MATRIX: A Unique Patient Classification System." Journal of Nursing Administration. December 1980, pp. 25-35.

Berman, Howard J. and Weeks, Lewis E. The Financial Management of Hospitals 5th ed., Ann Arbor: Health Administration Press, 1982.

Burick, David and Nackel, John G. "Diagnosis-Related Groups: Tool for Management." Hospital and Health Services Administration, Winter 1981, pp. 25-40.

Cohen, Adrene G. "Putting Together an Applicable Patient Categorization System for a Hospital and Nursing Home." Hospital Topics, May/June 1981, pp. 16-21.

Cox, Richard C. and West, Wilma L. Fundamentals of Research for Health Professionals. Laurel: RAMSCO Publishing Co. 1982.

Croxton, Frederick E. and Cowden, Dudley J. Applied General Statistics. New York: Prentice-Hall, 1939.

Daubert, Elizabeth A. "Patient Classification System and Outcome Criteria." Nursing Outlook, July 1979, pp. 450-454.

Eisenberg, B. S. "Diagnosis-Related Groups, Severity of Illness, and Equitable Reimbursement Under Medicare." Journal of the American Medical Assn. February 1984, pp 645-646.

Fackelmann, Kathy. "Research Finds Method for Nursing Home PPS." Modern Healthcare, April 26, 1985, p. 72.

Federal Register. Washington: U.S. Government Printing Office, September 1, 1983.

Fetter, Robert B.; Shin, Youngshoo; Freeman, Jean; Averill, Richard F.; and Thompson, John D. "Case Mix Accounting in Hospital Budgeting, Cost Control and Prospective Reimbursement." Medical Care, February 1980, pp. 29-35.

Fetter, Robert B.; Shin, Youngshoo; Freeman, Jean; Averill, Richard F.; and Thompson, John D. "Construction of Diagnosis Related Groups." Medical Care, February 1980, pp. 5-19.

Giovannetti, Phyllis. "Understanding Patient Classification Systems." Journal of Nursing Administration, February 1979, pp. 4-9.

Horn, Susan D. "Validity, Reliability and Implications of an Index of Inpatient Severity of Illness." Medical Care, March 1982, pp. 354-362.

Jackson, Bettie S. and Resnick, Joan. "Comparing Classification Systems." Nursing Management, November 1982, pp. 13-19.

Jay, Jeffrey R. "Managers and Physicians Work Together to Reduce Healthcare Costs." Healthcare Financial Management, February 1985, pp. 40-47.

Knaus, William A.; Zimmerman, Jack E.; Wagner, Douglas P.; Draper, Elizabeth A. and Lawrence, Diane E. "APACHE-Acute Physiology and Chronicle Health Evaluation: A Physiologically Based Classification System." Critical Care Medicine, August 1981, pp. 591-597.

Kreitzer, Shoaron L.; Loebner, Elaine S. and Roveti, George C. "Severity of Illness: The DRGs' Missing Link?" Quality Review Bulletin, May 1982, pp. 21-34.

Lamont, Gwynn X. "The Impact of Patient Condition Considerations Upon Nursing Department Staffing and Scheduling Requirements." MS, rpt., Nurse Staffing Based on Patient Classification, An Examination of Case Studies, Chicago: American Hospital Assn, 1983., pp. 11-20.

Lewis, Elizabeth N. and Carini, Patricia V. Nurse Staffing and Patient Classification, Stratagies for Success. Rockville: Aspen Systems Corp., 1984.

Mendenhall, William and Reinmuth. James E. Statistics For Management and and Economics. Belmont: Duxbury Press, 1971.

Owen, Jack W. ed. "Proposed Medicare Regulations Call for Freeze on DRG Payments." AHA Washington Memo, Washington: American Hospital Assn. May 31, 1985, p. 4.

Reinert, Pamela and Grant, Donald R. "A Classification System to Meet Today's Needs." Journal of Nursing Administration, January 1981, pp. 21-25.

Riedel, D. C. and Averill, R. F. "AUTOGRP an Interactive Computer System for the Analysis of Health Care Data." Medical Care, July 1976, pp. 603-609.

Rieder, Karen A. and Kay, Terrence A. "Diagnosis Related Groups: Potential Impact on Navy Health Care." Military Medicine, May 1985, pp. 266-270.

Schneider, and Don and Purziale, Al. "Development of Medical Classification Systems for Productivity Analysis." MS, rpt., Proceedings of the 7th Annual Conference of the Health Services Division of the American Institute of Industrial Engineers, February 9-11, 1976, Colorado Springs: American Inst. of Industrial Engineers 1976.

Schroeder, Richard E., Rhodes, Arvin M. and Shields, Robert E. "Nurse Acuity Systems: CASH vs. GRASP, (A Determination of Nurse Staff Requirements)." Nursing Forum, February 1984, pp. 72-77.

Sherrod, Susie M. "Patient Classification System: A Link Between Diagnosis-Related Groupings and Acuity Factors." Military Medicine, September 1984, pp. 506-511.

Simborg, D. W. "DRG Creep. A New Hospital Acquired Disease." New England Journal of Medicine, 1981, pp. 1602-1604.

Snedecor, George W. and Cochran, William G. Statistical Methods. Ames: Iowa State University Press, 1980.

Standards for Nursing Services. Kansas City: American Nurses' Assn. 1973.

Swinkola, Robert B. "Assessment of the AUTOGRP Patient Classification System". Medical Care, February 1980, pp. 228-244.

Tien, James M. Methods for Assessing Inpatient Nurse Staffing Requirements. Santa Monica: Rand Corp. 1974.

Tucker, Stephen. Lecture. U.S. Army-Baylor University Graduate Program in Health Care Administration, San Antonio: June 1984.

Vaughan, Robert G. and MacLeod, Vernon. "Nurse Staffing Studies: No Need to Reinvent the Wheel." Journal of Nursing Administration, March 1980, pp. 9-15.

Williams, Patricia; Black, Joanne M. and McKay, Priscilla S. "Evaluation of the U.S. Army and Navy Workload Management System: Psychometric Characteristics and Usefulness for Patient Classification and Staffing Allocations in the Air Force Medical Service." unfinished MS as of this date, San Antonio: Wilford Hall USAF Medical Center.

Workload Management System Educational Workbook. San Antonio: U.S. Air Force Medical Service, n.d.